McCollough|Henry PC

Matthew Henry
1250 South Capital of Texas Highway
Building 2, Suite 235
West Lake Hills, Texas 78746
Phone: 512.888.1114
Fax: 512.692.2522
henry@dotlaw.biz

July 24, 2015

PUBLIC VERSION

Via Federal Express

Ms. Marlene H. Dortch
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20054

RE: *In the Matter of Worldcall Interconnect, Inc. a/k/a Evolve Broadband, Complainant v. AT&T Mobility, LLC, Defendant*, File No. EB-14-MD-011 – Supplemental Declaration of Lowell Feldman.

Dear Ms. Dortch,

Pursuant to the Commission's scheduling order of July 7, 2015, Worldcall Interconnect, Inc. ("WCX") hereby submits for filing the Highly Confidential Supplemental Declaration of Lowell Feldman in the above-captioned complaint proceeding. WCX requests Highly Confidential treatment of certain information contained in the Supplemental Declaration, submitted pursuant to 47 C.F.R. §§ 1.726, 1.731, and the protective order entered in this proceeding.

WCX provides justification for the Highly Confidential treatment of the Supplemental Declaration in the Appendix to this letter, pursuant to 47 C.F.R. §§ 0.457 and 0.459. In accordance with 47 C.F.R. § 1.731(b), WCX agrees that the Highly Confidential information in the Supplemental Declaration may be disclosed to the persons listed in this subsection, including counsel of record for Defendant, to the extent necessary solely for the purpose of this action.

Along with this non-redacted Highly Confidential version of the Supplemental Declaration, WCX is simultaneously submitting, under separate covers, a partially-redacted Confidential version and a redacted public version. The non-redacted and partially-redacted versions of the Supplemental Declaration are marked "DO NOT RELEASE, NOT FOR INCLUSION IN THE PUBLIC RECORD" and "Highly Confidential Information included pursuant to Protective Order, *Worldcall Interconnect, Inc. v. AT&T Mobility, LLC*, File No. EB-14-MD-011." The redacted version of the Supplemental Declaration is marked "PUBLIC VERSION." All versions of the Supplemental Declaration are the same except that, in the public version, the Highly Confidential and Confidential information has been omitted and the Confidential version omits all Highly Confidential information. This cover letter does not contain any Highly Confidential or Confidential information.

WCX is simultaneously delivering two courtesy copies of the Supplemental Declaration (non-redacted, highly confidential) to Market Disputes Resolution Division staff.

Please do not hesitate to contact us with any questions using the information in the letterhead.

Respectfully,

/s/Matthew A. Henry

Matthew A. Henry
W. Scott McCollough
McCollough Henry, PC
1250 S. Capital of Texas Hwy, Bldg 2-235
West Lake Hills, TX 78746
henry@dotlaw.biz
wsmc@dotalw.biz
Tel: 512.888.114
Fax: 512.692.2522

Counsel for Worldcall Interconnect, Inc.

Enclosures

Copy to (via email)

James F. Bendernagel, Jr.
David L. Lawson
Paul Zidlicky
Thomas E. Ross.
Sidley Austin LLP
1501 K Street, N.W.
Washington, D.C. 20005

APPENDIX

Confidentiality Request and Justification

WCX requests Confidential and Highly Confidential treatment of specific information contained in the Supplemental Declaration associated with this correspondence. In accordance with 47 C.F.R. § 0.459(b) and in support of its request, WCX provides the following information:

47 C.F.R. § 0.457(d)

Information contained in the Supplemental Declaration is Confidential and Highly Confidential and proprietary to WCX as "commercial information" not routinely available for public inspection or is otherwise confidential under Section 0.457(d). These materials constitute descriptions of the terms and conditions of a roaming agreement between WCX and another carrier. Therefore, in the normal course of Commission practice, this material should be considered "Records not routinely available for public inspection."

47 C.F.R. § 0.459

Specific information included in WCX's Supplemental Declaration is also subject to protection under 47 C.F.R. § 0.459, as demonstrated below.

Information for which confidential treatment is sought

WCX requests confidential treatment of specific information contained in parts of the Supplemental Declaration as containing Confidential and Highly Confidential information. The Highly Confidential information includes descriptions the terms and conditions of a roaming agreement between WCX and another carrier. The information is identified as Confidential and Highly Confidential when it appears within the submission, and pages containing confidential information have been marked pursuant to the October 9, 2014 order and the protective order in place in this proceeding: "DO NOT RELEASE, NOT FOR INCLUSION IN THE PUBLIC RECORD." Consistent with the protective order, the material marked as protected also includes a legend designating the material as Confidential and Highly Confidential.

Commission proceeding in which the information was submitted

The information is being submitted in *In the Matter of Worldcall Interconnect, Inc. a/k/a Evolve Broadband, Complainant v. AT&T Mobility, LLC, Defendant*, File No. EB-14-MD-011.

Degree to which the information in question is commercial or financial, or contains a trade secret or is privileged

The material designated as Confidential and Highly Confidential contains sensitive commercial information of complainant that WCX maintains as confidential. It includes

descriptions of the terms and conditions of a roaming agreement between WCX and another carrier.

Degree to which the information concerns a service that is subject to competition

The Confidential and Highly Confidential information that WCX seeks to protect is related to its provision of mobile wireless services. The mobile wireless industry is somewhat competitive.

How disclosure of the information could result in substantial competitive harm

Disclosure of the Confidential and Highly Confidential information would result in substantial competitive harm because it would give competitors insight into WCX's contractual arrangements, business model, network construction, business plans, and business relationships.

Identification of any measures taken by the submitting party to prevent unauthorized disclosure

WCX has treated and treats the information disclosed in this material as Confidential and Highly Confidential and has protected it from public disclosure to parties (other than Defendant and the Commission) outside of the company.

Identification of whether the information is available to the public and the extent of any previous disclosure of the information to third parties

The designated information had not been previously made available to the public or provided to third parties (other than the Defendant and the Commission now).

Justification of the period during which the submitting party asserts that material should not be available for public disclosure

WCX cannot determine at this time any date on which this material should not be considered Confidential and Highly Confidential or would become stale for purposes of the current action. Therefore, the information should be treated as Confidential and Highly Confidential indefinitely.

Any other information that the party seeking confidential treatment believes may be useful in assessing whether its request for confidentiality should be granted

Under applicable Commission and court rulings, the material in question should be withheld from public disclosure. Exemption 4 of the Freedom of Information Act, 5. U.S.C. § 552(b)(4), shields commercial or financial information.

PUBLIC VERSION
DO NOT RELEASE, NOT FOR INCLUSION IN THE PUBLIC RECORD

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
WORLDCALL INTERCONNECT, INC.	)	
a/k/a EVOLVE BROADBAND,	)	
Complainant.	)	File No. EB-14-MD-011
	)	
v.	)	
	)	
AT&T MOBILITY LLC	)	
Defendant	)	

SUPPLEMENTAL DECLARATION OF LOWELL FELDMAN

1

I. Introduction

In this Supplemental Declaration I will provide an update on the pertinent facts and recent events that have occurred since my Reply Declaration and are relevant to our disputes with AT&T over a roaming agreement. This declaration is broken into three sections: First I will explain the most recent negotiations with AT&T and sponsor WCX's Best and Final Offer ("BAFO"); second I will address WCX's negotiations with other carriers, which have led to an executed Roaming Agreement between WCX and [redacted] and can serve as a model to help resolve many open issues; and third I will describe WCX's and its affiliates' continued business developments and advancements that bear on the roaming issues in this case.

II. Section I: Continued Negotiations with AT&T

A lot has transpired since my last Reply Declaration. With respect to negotiations with AT&T, nearly all communication has been through the discovery process and/or communication between the parties' attorneys. Except for the formal mediation process, and a single call prior to that process, AT&T has not made any business persons with authority available to bargain or negotiate.

One significant occurrence has been the production via discovery of most of the agreements AT&T has with other parties. This has been significant because we have learned that AT&T has agreed on language with other parties that would resolve many of the issues we had with AT&T's original offer. While I have been prohibited from examining the alternative agreements myself, AT&T, with encouragement from the FCC staff, did allow my attorneys to piece together a contract by collecting language AT&T has already agreed to, and then crafting relatively limited changes to make it all fit together. When we were confident this approach would still serve our needs we decided to go ahead and sponsor the revised approach as a new offer from WCX. This served the salutary purpose of eliminating a large number of disputes over framework, boilerplate and wording minutiae because it ended the "Battle of the Forms" and left, for the most part, only the substantive disputes to be negotiated and then, if necessary, decided by the Commission. Since we also made material concessions on some of the "restrictions" AT&T sought, we hoped AT&T would be similarly disposed and make some compromises of its own, but sadly that did not occur. Nonetheless, the Commission can now focus on the legal and policy issues without having to also resolve hundreds of subsidiary disputes over relatively non-substantive matters.

Although AT&T did accept a few of the substantive suggestions, AT&T's response to our efforts has been largely negative; indeed it is now going backwards in several respects. AT&T has effectively retreated from, and will not agree to, results it did support in other contracts. AT&T is fervently attempting to prevent WCX from investing in network expansion or obtaining access rights to third party networks outside of WCX's 700 MHz "licensed" areas. AT&T is trying to ban innovations that WCX seeks to use in its own network, in its own service areas and for its own customers. Indeed, AT&T has also decided to discriminate. For example [redacted]

[redacted]

[redacted]

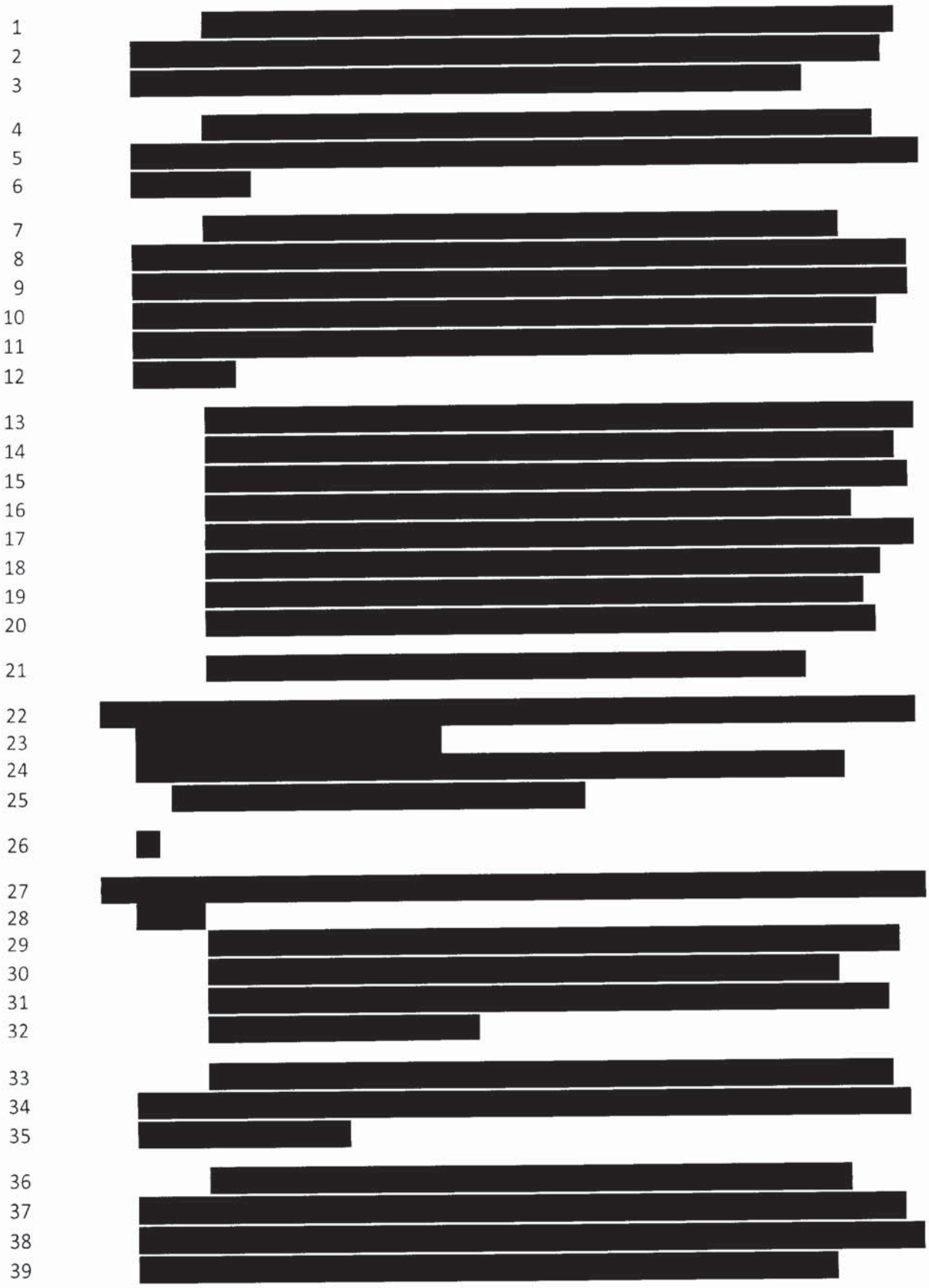
WCX's original pleadings and contract terms asserted that a "reasonable" limit on roaming use would be 50% of total use by WCX's customers. We have now reduced that amount considerably (by one-half) in a good faith effort to compromise. [redacted] In response to AT&T's oft-stated charge that WCX was trying to "piggy-back" on AT&T's network and use a data roaming agreement as a means to compete for customers that do not reside or have only a tenuous connection to WCX's service area, [redacted] WCX has made every possible effort to either build more network or secure network access from parties other than AT&T. In sum, WCX is doing everything it can to find ways to *not* roam on AT&T's network.

AT&T's response to date has been quite curious. Rather than applaud these efforts and terms, AT&T has instead opposed the proposals and assiduously drafted AT&T BAFO provisions that punish WCX for building or securing access to alternative networks. [redacted] And AT&T then illogically and incorrectly professes that its punitive and restrictive terms are there to provide an incentive for WCX to invest in its own network. The problem, of course, is that they actually impose obstacles to investment and deployment by WCX.

When WCX attempted to use the words AT&T had agreed to with others to resolve the issues addressed above, AT&T said "no" via its own BAFO, and refused to produce a business counterpart to further bargain. WCX then adjusted its BAFO proposal to more clearly delineate the differences in our remaining issues. (I do note that AT&T did adjust some of its original positions to be in line with AT&T's language with others, eliminating some issues. [redacted] I have grouped the substantive disputes into six overarching issues that encapsulate the current differences between the parties' two contract proposals. These issues manifest in various ways throughout the BAFOs, but much of the parties' different proposed terms are directly related to these disputed issues.

ISSUE 1: Can WCX have a Service Area, Services and Network other than that exclusively related to WCX's 700 MHz "licensed" area?

WCX proposed the following contract definitions, all of which AT&T refused to accept.



[redacted]

[redacted]

Each of the above definitions proposed by WCX are just and reasonable (where rule 20.12(d) applies), and are commercially reasonable (where rule 20.12(e) applies). The definitions echo and apply the actual FCC rules governing Mobile Service. In some cases WCX has employed definitions used by the Wireless Telecommunications Bureau in other proceedings. More important, the substance achieved from these definitions and then their use in the rest of the BAFO is precisely what the Commission has said it wanted to implement in the roaming context, for both interconnected services and wireless broadband internet access. WCX is able to provide seamless nationwide service to its users, is encouraged to invest and expand its network, can compete with larger providers, and all the while keep its roaming use relatively low by looking for and robustly obtaining connectivity solutions other than through AT&T wherever possible.

AT&T can no longer credibly claim WCX is trying to obtain "resale" in the guise of "roaming" or extensively "piggy-backing" on AT&T's network. AT&T's terms, however, frustrate our efforts by tightly limiting roaming on AT&T's network, while simultaneously preventing WCX from having any means to

provide service other than by roaming on AT&T's network. WCX is punished for roaming on AT&T, but also punished for finding ways to not roam on AT&T.

The dispute over the substance of these definitions is, in many ways, this case's primary contested issue. WCX is CMRS. When WCX innovates and uses technology similar to Google's "Project Fi" or fully unleashes the potential of the functions made possible by the Apple SIM, we are still a CMRS provider; our customers who use these technologies are still our CMRS customers and they do not lose their status as Authorized Roamers merely because we have arranged to make connectivity available on and provide service through alternative non-AT&T infrastructure, including non-licensed or light-licensed spectrum.

WCX asserts that we should be applauded, not punished, for entering into commercial agreements with other parties, such as [redacted] to use their networks to supplement our network footprint and service area. The Commission should back, not inhibit, innovative technology like a Multi-SIM (the Apple SIM is an example of this technology). When WCX supports and enables innovation and finds creative methods to supply connectivity other than through AT&T we should not lose roaming rights on AT&T's network for those instances where there is no alternative.

WCX believes the Commission should encourage, not prohibit, construction and use of non-GSM and non-LTE networks to support our customers' mobile stations and to provide our mobile service, including the provision of innovations for voice and texting similar to Google's "Project Fi," and when we do so, our customers should not lose the ability to roam on AT&T's network where there is no alternative.

WCX rejects AT&T's efforts to limit and control how we expand our network and the technologies we are allowed to use. As long as WCX is the "primary provider of Mobile Services" and we do not use AT&T's network as the primary source of WCX's mobile services, then roaming is allowed under FCC rules. This is our legal position, but it is not shared by AT&T.

As can be seen below, in a good faith effort to compromise WCX has now defined "primary source" as [redacted] of total usage as opposed to our original proposal of over 50%. [redacted] WCX, also in an effort to compromise, [redacted] This leads us to the most glaring difference between the parties: whether WCX can create and define its own Network and its own Service Areas using connectivity solutions other than AT&T's network.

In this case, the FCC must either decide whether AT&T can use its market power to impose roaming terms that regulate, limit and control where and how WCX provides services, or it must decide that AT&T cannot regulate where and how WCX provides its own services, over its own network, thereby lessening the need to roam on AT&T's network.

Again, nowhere is this dispute more evident than the dispute over the definition of a **Network**. AT&T specifically rejects WCX's ability to expand our own offering by building our own facility-based

networks, leasing capacity on third party networks or finding more amenable roaming partners. This is an unjust and unreasonable demand by AT&T and it is unreasonably discriminatory. It is not commercially reasonable.

[redacted] This also is an unreasonable demand, especially in light of WCX's express focus on using innovative technology to provide M2M services nationwide, and for those services to innovate how those devices are "interconnected." WCX wishes to support M2M devices that, we hope, can roam as little as possible because they can be enabled to interconnect on customized networks, applications and devices and will only seek to roam in AT&T's network when there is no other acceptable alternative. However, due to AT&T's duopoly like market power (along with Verizon), our customers will – despite our constant efforts – sometimes have no other reasonable alternative. AT&T's restrictions ensure that WCX cannot allow its user to roam on AT&T in conjunction with any WCX planned offering, even when WCX builds and manages the network supporting the primary use of the devices.

WCX submits that if it cannot define its own network and service area, it will effectively be barred from roaming with AT&T to support its current designed and innovative offerings. The result will be that we will not be able to launch any nationwide offering. Even if WCX reached an agreement with every nationwide carrier other than AT&T and Verizon we still could not nearly cover the entire country. AT&T is and will remain a "must have" roaming partner for compatible carriers that want to allow seamless nationwide plans and services. There is simply no other alternative. If AT&T gets its way, small carriers such as WCX will be effectively barred from participating in the market for support of cutting-edge devices and services, including the innovations related to recent Apple and Google advancements.

ISSUE 2: What is "Roaming"?

The second important difference between the parties' positions, which is related to the first issue, is the definition of "Roaming" and the resulting definition of a Carrier's Home Area where Roaming is available. AT&T refuses to include a definition of Roaming. From a basic contract law perspective any contract for a "service" needs to have an understood definition for the service being rendered. The reason the second issue is related to the first issue (and the likely reason AT&T opposes a definition for the service being rendered) is that once you define Roaming consistent with the FCC's prior descriptions of that term, it becomes obvious that AT&T's definitions, its uses of additional terms, and its refusal to include FCC-used terms are all driven by anti-competitive purposes. AT&T, by refusing to define what "Roaming" is, has room to argue that what WCX wants to do is somehow not "Roaming."

AT&T says that WCX's intended use is not "Roaming." WCX says it is "Roaming." Logic and reason demands that before this conceptual disagreement can be resolved someone has to define what "Roaming" really is, and is not.

A secondary reason why Roaming should be defined is to make clear that if WCX provides "primary" service to a customer by providing connectivity through non-700 MHz spectrum, the customer will still be eligible to roam on AT&T's GSM/LTE networks. WCX believes that if WCX provides the primary network to its own users (through any means), it can and should be able to "authenticate" its own subscribers and have them be "Authorized Roamers" without breaching the agreement.

The definition of Roaming issue also guides resolution of the parties' competing "Whereas clauses" and manifests through differing language on the purpose of the agreement, or would effectively change the substantive outcome with regard to language to which the parties have agreed.

[redacted]

These definitions are related to the first set of issues because AT&T attempts to limit WCX's ability to provide service through investment in alternative networks or contractual access to third-party networks, and have customers served using these alternatives be "Roamers" or "Authorized Roamers."

Indeed, these customers do not fit AT&T's definition of "Permanent Roamer" given AT&T's self-serving definitions of "Mobile Wireless Service" and "Network," none of which are consistent with how the FCC defines those terms. AT&T's refusal to include a definition of "Roaming" is telling. WCX's definition is entirely consistent with how the FCC has described it, including in the recent Seventeenth CMRS Competition Report.[1] WCX believes it is just and reasonable, commercially reasonable, and common sense for a "Roaming Agreement" to define "Roaming." Roaming related definitions should describe roaming consistent with the Commission's precedent, and should not impose carefully scrivened restrictions and limitations that deter and punish network investment and expanded network coverage by smaller carriers using innovative and efficient means and methods.

ISSUE 3: WCX and AT&T provide Interconnected Services and LTE is not just "data"

The third difference between the parties' positions on the first and second issues also shows up first in the definitions. It too is related to the first and second issues above. WCX believes its contemplated services, including many of its contemplated M2M services should be classified as CMRS and in particular WCX's "interconnected services" must be recognized.[2]

[redacted]

[1] In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, *Seventeenth Report*, ¶57 29 FCC Rcd 15311, 15340 (rel. Dec. 18, 2014):

> 57. Service providers often use roaming services to enhance their coverage. They offer their customers coverage outside of their network coverage areas through roaming arrangements with other providers. Roaming arrangements between mobile wireless service providers allow customers of one mobile wireless provider to automatically receive service from other providers' networks when they are in areas that are covered by their roaming partners' networks but not their own network. Smaller providers that rely on roaming arrangements to offer nationwide coverage to their customers often include the price of nationwide roaming services in the plans' monthly fees instead of billing for roaming on a usage basis. In contrast to the purchase of capacity wholesale from other service providers to provide resale or MVNO services, a provider uses roaming services to market extended coverage to consumers residing within the provider's network coverage area, not to acquire customers where a provider does not have network coverage.

[2] The Commission changed several definitions in the *Open Internet Order* that bear on this third issue. For purposes of this case, however, WCX is proceeding as if there was no change based on the Commission's decision to delay implementation of those changes in the roaming context.

[redacted]

These definitions are important because WCX is a provider of "Interconnected Services" such as the ones we describe and define in the contract. [redacted]

WCX has asserted from the beginning that AT&T's "automatic roaming" duties under rule 20.12(a)(2) and (d) extend to its LTE network. If WCX's position is adopted on this legal point, the main effect is that AT&T bears the burden of proof to show its proposals are just, reasonable and non-discriminatory for all issues where the automatic roaming duty does apply. WCX has relied on the plain meaning of the terms in these two rules. As a factual matter it is uncontested that AT&T is a "CMRS carrier" and "offer[s] real-time, two-way switched voice or data service that is interconnected with the public switched network and utilizes an in-network switching facility that enables the carrier to re-use frequencies and accomplish seamless hand-offs of subscriber calls." 47 C.F.R. § 20.12(a)(2). AT&T also provides "text-messaging." That means "Paragraph (d) of this section is applicable." *Id.* Consistent with paragraph (d), WCX has made a "request" for automatic roaming, which means AT&T has "the duty ... to provide automatic roaming to any technologically compatible, facilities-based CMRS carrier on reasonable and not unreasonably discriminatory terms and conditions, pursuant to Sections 201 and 202 of the Communications Act, 47 U.S.C. 201 and 202." 47 C.F.R. § 20.12(d). It also means that "[t]he Commission shall presume that a request by a technologically compatible CMRS carrier for automatic roaming is reasonable pursuant to Sections 201 and 202 of the Communications Act, 47 U.S.C. 201 and 202" although AT&T may rebut the presumption "on a case by case basis." *Id.*

WCX has already shown, and AT&T has never contested the showing, that WCX is "technologically compatible" and "facilities-based." All of the factual predicates for application and implementation of rule 20.12(a)(2) and (d) have been met.

AT&T has essentially admitted that its 2G and 3G networks are subject to the automatic roaming requirement, but still insists that its LTE network is immune from the operation of the automatic roaming rule since "LTE" is allegedly only "data." WCX disagrees, for both legal and technical reasons. I will leave the legal argument to counsel, but do need to provide an update on factual, technical and other developments that have occurred since my Reply Declaration and support the legal case.

LTE is of course "all IP." But LTE wireless interface and its associated protocols were purposefully designed to support all mobile services and applications, including those that were "interconnected services" under the rules as they existed prior to the revisions made in the *Open Internet Order*. For example, LTE supports text-messaging, which is also covered by the automatic roaming rule. Recently (on June 12, 2015) AT&T filed a Petition for Rulemaking that contains important new factual information. *See* Feldman Supplemental Declaration Exhibit A. AT&T's June 29, 2015 comments in the 17th CMRS Competition Report proceeding also demonstrate that AT&T has already deployed VoLTE within its network and will continue to roll out VoLTE throughout its service areas. AT&T is also rolling out "Wi-Fi Calling Service." *See* Feldman Supplemental Declaration Exhibit B.[3] AT&T is about to deploy other LTE-based "interconnected services" like "Real Time Text" to support disability access. All of these new developments plainly show that from a technical perspective AT&T's LTE network is not now, and certainly will not in the future be, solely a "data" offering that does not in any manner support AT&T-provided "interconnected services." AT&T's LTE network does at present "offer real-time, two-way switched voice or data service that is interconnected with the public switched network and utilizes an in-network switching facility that enables the carrier to re-use frequencies and accomplish seamless hand-offs of subscriber calls."

AT&T has also claimed that the *Open Internet Order* somehow operated to *sub silentio* make AT&T's automatic roaming obligations moot or otherwise inoperative. Again, I disagree. Although this is primarily a legal briefing issue, I will note that as a business person it was significant to me that the Commission recently implicitly rejected any such argument when it carefully cited to both the 2007 and 2010 "Voice Roaming" orders in the same breath as the 2011 *Data Roaming Order* and then went on to suggest that the guidance provided by the Wireless Telecommunications Bureau in the 2014 *Data Roaming Declaratory Ruling* also applied to automatic roaming requests. *See* In the Matter of Applications of AT&T Inc., E.N.M.R. Telephone Cooperative, Plateau Telecommunications, Inc., New Mexico RSA 4 East Limited Partnership, and Texas RSA 3 Limited Partnership; For Consent To Assign Licenses and Authorizations, *Memorandum Opinion and Order*, WT Docket No. 14-144, FCC 15-53, ¶¶37-42, 30 FCC Rcd 5107, 5123-5126 (May 8, 2015) (excerpted below, notes 115-137 omitted):

> 37. Roaming occurs when a subscriber of one mobile wireless provider travels beyond the service area of that provider and uses the facilities of another mobile wireless

[3] See especially AT&T's Comments at page 20: ("AT&T, Verizon Wireless, and T-Mobile have all deployed Voice over LTE ('VoLTE'), and each carrier has used VoLTE to provide superior voice calls via high definition voice ('HD Voice')); ("Both AT&T and Verizon Wireless have announced that they plan to offer Wi-Fi calling in 2015").

provider to place and receive calls, continue in-progress calls, and transmit and receive data. ...

39. Discussion: Based on the record before us, we decline to impose the condition requested by T-Mobile that would require AT&T to provide T-Mobile with roaming pursuant to the terms of the T-Mobile/ Plateau Wireless agreement for five years. We note that the Commission's general roaming policies and rules are intended to enable entities to obtain roaming agreements on reasonable terms and conditions. If an entity faces certain difficulties in negotiating roaming agreements, we reiterate that such entity may rely on the protections afforded by the Commission's general roaming policies and rules as well as the availability of relief under the Commission's complaint procedures.

42. In regard to T-Mobile's concerns that relate to AT&T's alleged practice, subsequent to some previous transactions, of essentially requiring roaming over larger areas, including places where it may be unnecessary, we remind service providers that in the event that a service provider, including T-Mobile, encounters difficulties in the affected markets in obtaining desired roaming services under our rules and policies, it can file complaints with the Commission pursuant to our established roaming rules.[note 128] Further, the Bureau recently released a declaratory ruling in which it provided additional guidance on the Data Roaming Order's standard for evaluating the commercial reasonableness of proffered data roaming terms and conditions. [note 129] The *Data Roaming Declaratory Ruling* recognizes that this additional guidance should facilitate T-Mobile's efforts to address any roaming-related issues that it anticipates might arise. For all these reasons, we deny T-Mobile's request for conditions.

[128] *See* Roaming Obligations of Commercial Mobile Radio Service Providers, WT Docket No. 05-265, *Report and Order and Further Notice of Proposed Rulemaking*, 22 FCC Rcd 15817, 15828 ¶ 27 (2007); Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers, WT Docket No. 05-265, *Order on Reconsideration and Second Further Notice of Proposed Rulemaking*, 25 FCC Rcd 4181, 4192 ¶ 2 (2010) ("*Order on Reconsideration*" and "*Second Further Notice*," respectively); Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265, *Second Report and Order*, 26 FCC Rcd 5411 (2011) ("*Data Roaming Order*"), aff'd sub nom. *Cellco Partnership v. FCC*, 700 F.3d 534 (D.C. Cir. 2012).

[n129] See Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05-265, *Declaratory Ruling*, 29 FCC Rcd 15483, 15486 P 8 (2014) ("*Data Roaming Declaratory Ruling*").

I will add that the description of what roaming "is" in ¶37 above is very consistent with, and supports the definition of roaming that appears in WCX's BAFO that we anticipate AT&T will oppose as I describe above in Issue 2.

ISSUE 4: The Commission Should *Encourage* Not *Punish* Network Coverage Expansion, But Can Discourage Use of Roaming as the Primary Means of Service Delivery – in order to *Encourage* Network Coverage Expansion.

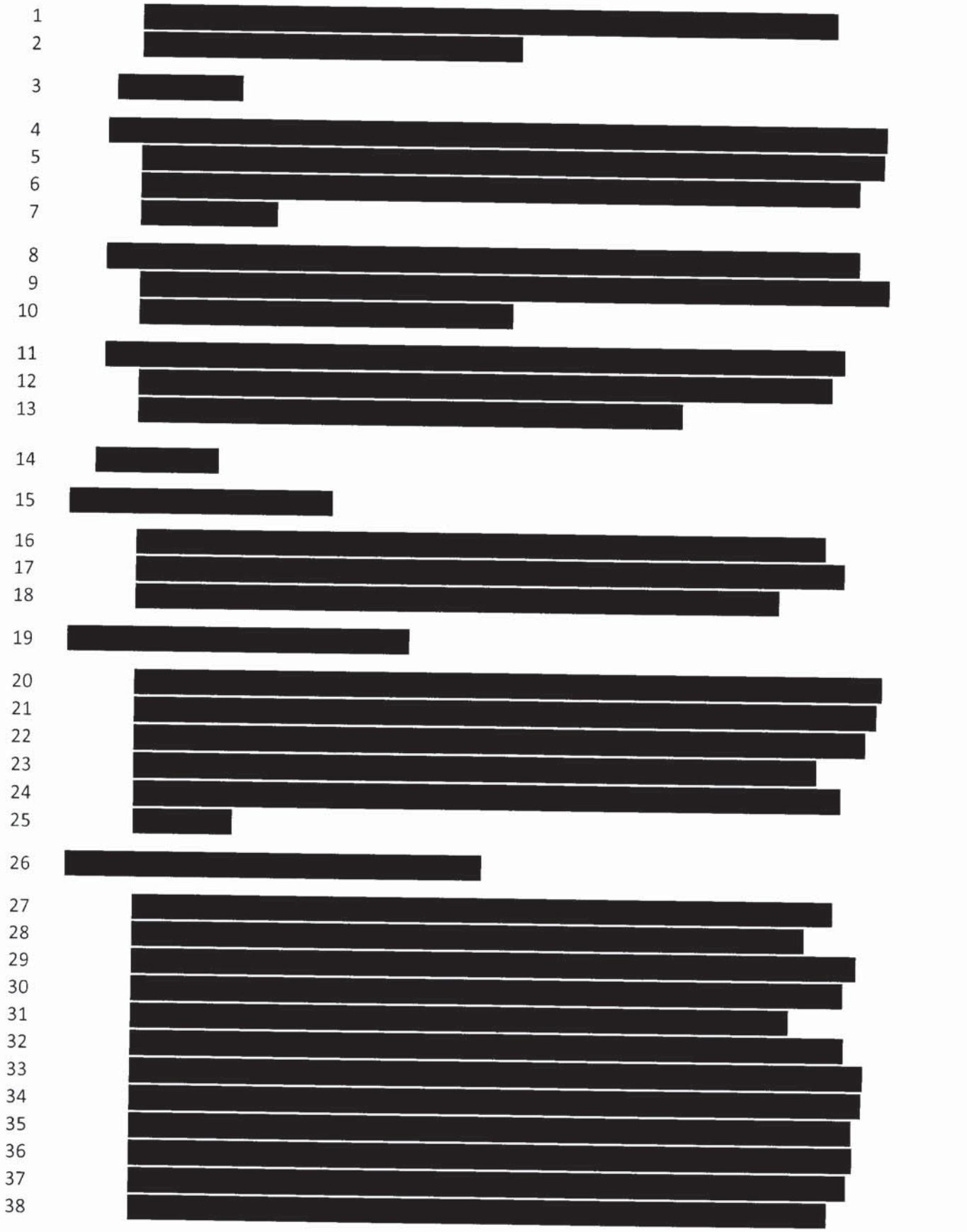
Once the first three interrelated sets of definitional issues are resolved, the fourth issue comes into clearer focus. Namely what are the reasonable marketing and use restrictions for roaming and how are those restrictions implemented? [redacted] but a balanced review reveals what the intention truly is. The purpose of this section is to "restrict" Roaming.

It is in this area that AT&T's refusal to actually negotiate terms is very impactful. WCX's early draft BAFO initially proposed terms AT&T had agreed to with other parties. [redacted] When AT&T rejected the same language it had agreed to with other parties, WCX asked to have business negotiations in hopes of agreeing on a format as to how the language could be structured. AT&T again refused.

WCX then did its best to put forth a workable structure using the concept of what AT&T had agreed upon with other carriers as a base and then added missing concepts like "compliance" and added details on what purpose an "audit" would serve.

WCX's proposal is both just and reasonable and commercially reasonable. AT&T's is neither. Below is WCX's proffered language in Section 11 of the BAFO:

[redacted]



[redacted] This leads to the next issue, which are Breach/Cancellation/Damages provisions.

Issue 5: Breach/Cancellation/Damages

Since the WCX intent is to require AT&T to provide roaming to WCX's authorized users where AT&T currently believes there is no obligation to do so, WCX is concerned that AT&T may try to interpret any resulting agreement in a way that effectively voids the agreement or AT&T may choose to simply not comply with the agreement. AT&T would have a clear competitive reason to do so since AT&T currently enjoys a dominant position the marketplace and the "cost" to AT&T by breaching would be minimal given the limits of liability provisions. If AT&T believes that AT&T will ultimately incur greater economic loss by performing under the contract, thereby opening the door to innovation and rivalrous development of extensive alternative connectivity solutions it will have a lot of incentive to frustrate full implementation and ultimately to breach. [redacted]

[redacted]

WCX's proposed language is just and reasonable and commercially reasonable. While it is similar to AT&T's language, we have added terms that [redacted]

ISSUE 6: Rates and the Term

This leads us to the final issue: the rates to be charged. [redacted] However, for our BAFO, WCX has again attempted to compromise by proposing a rate structure for non-M2M services that WCX reached through voluntary negotiations with [redacted]

[redacted]

[redacted]

AT&T's new proposed rates are not just and reasonable. Nor are they commercially reasonable. This is so because they are designed to limit or prevent competition and actively deter alternative network deployment and investment that will create additional network coverage even though this will in turn mean less demand for roaming on AT&T's network. [redacted] which would be prohibitively expensive for WCX and would block WCX's ability to support competitive seamless nationwide offering.

SECTION II: [redacted]

[redacted]

[redacted]

Section 3: WCX and its Affiliates Continue to Progress with Business Development

[redacted]

[redacted]

Our Innovation Hub and GSM/LTE Core

Since my last declaration, WCX and its affiliate GigSky Mobile LLC. have deployed a 5 million user capacity GSM/LTE Core in Dallas Texas in the "InfoMart." We chose this location because it is one of the most connected buildings on the internet backbone in the world and is an ideal location to peer with both GSM based networks and M2M developers and businesses.

[redacted]

GSMA

WCX has been accepted as a full member of the GSMA. Prior to becoming a member, I sought out the lead experts in the GSMA on roaming and made them aware of both the Multi SIM technology we intend to use and the "Project Fi" technology we intend to use. The GSMA reviewed our application and has accepted us as full members.

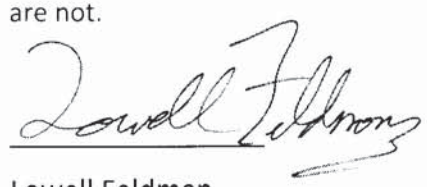
SUMMARY AND CONCLUSION

AT&T started out in this case by implying that WCX was not "real" and likely did not have any network at all. AT&T basically asserted that WCX's efforts nothing but an effort to obtain "back-door" "de facto" resale to non-residents that would "piggy-back" on AT&T's network through the "artifice" of roaming. They can no longer legitimately even whisper such things. Indeed, now AT&T's concern is that WCX might end up with "too much" network that can be used to ***not roam*** on AT&T's network. AT&T has suddenly recognized that WCX has somehow managed to develop business relationships and capabilities that could revolutionize wireless services and truly energize the M2M and IoT markets. AT&T now perceives WCX not as a reseller wanna-be, but instead a significant potentially disruptive entrant that will upset AT&T's ability to control how the mobile marketplace operates, through strict device and user control that maintains prices far above cost.

AT&T's last chance to head this off is to deny roaming for those places where AT&T is the only compatible network and there is no alternative. By preventing WCX from affording truly seamless service in all areas AT&T can preclude WCX from providing services of any kind anywhere except in WCX's limited 700 MHz footprint.

WCX has made many concessions and adjustments to address AT&T's concerns that have at least facial plausibility and some justification under the Commission's policies and rules and decisions. We eliminated the Battle of the Forms. We reduced the amount of roaming that is allowed. We raised the price. We actually found ways to *not roam* wherever possible – and now, strangely enough the latter adjustment has become AT&T's biggest sore spot.

I believe that WCX's BAFO best implements the Commission's policies and goals, and the terms, conditions and prices are just and reasonable and commercially reasonable. AT&T's terms do not and are not.



Lowell Feldman

EXHIBIT A

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications	)	PS Docket No. 11-153
	)	
Framework for Next Generation 911 Deployment	)	PS Docket No. 10-255
	)	
IP-Enabled Services	)	WC Docket No. 04-36
	)	
Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities	)	CG Docket No. 03-123
	)	
Implementation of Sections 716 and 717 of the Communications Act of 1934, et al	)	CG Docket No. 10-213

PETITION FOR RULEMAKING

AT&T Services, Inc.

Larry Jones
Robert Vitanza
Gary Phillips
AT&T Services, Inc.
208 S. Akard St., Rm 3001
Dallas, Texas 75202
214-757-7944
Counsel for AT&T Services, Inc.

June 12, 2015

TABLE OF CONTENTS

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications	)	PS Docket No. 11-153
	)	
Framework for Next Generation 911 Deployment	)	PS Docket No. 10-255
	)	
IP-Enabled Services	)	WC Docket No. 04-36
	)	
Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities	)	CG Docket No. 03-123
	)	
Implementation of Sections 716 and 717 of the Communications Act of 1934, et al	)	CG Docket No. 10-213

PETITION FOR RULEMAKING

AT&T Services, Inc., on behalf of its subsidiaries (collectively, "AT&T"), pursuant to Federal Communications Commission ("Commission") Rule Section 1.401, respectfully submits this Petition for Rulemaking ("Petition") to update the Commission's accessibility rules.

I. INTRODUCTION

AT&T invites the Commission to open a docket to explore a change to Commission rules requiring support for text telephone ("TTY") technology, including Sections 20.18(c) and 64.603, that would allow real-time text ("RTT")[1] communications to replace TTY as the technology of choice for persons who are deaf, hearing impaired, or speech impaired to access

[1] For purposes of this Petition, AT&T's reference to RTT means the standard Internet Engineering Task Force (IETF) Request for Comments (RFC) 4103, Real-time Transport Protocol Payload for Text Conversation (2005) and its successor protocol as determined by a telecommunications industry setting body such as IETF and the Alliance for Telecommunications Industry Solutions ("ATIS").

newly deployed voice communications. Transforming the TTY rules will change the status quo for persons with these disabilities and set the stage for service providers, for the first time, to offer real-time, accessible voice services. A rule change would relieve equipment manufacturers and service providers from legacy TTY requirements when deploying new IP-based voice devices and services, encourage the deployment of broadband technology and accessible IP-based devices and voice services, and present the promise of reduced financial pressure on the Interstate Telecommunications Relay Service ("TRS") Fund. RTT would enhance the accessibility options available to persons who are hearing and/or speech impaired without sacrificing existing accessibility solutions on legacy networks, like TTY. This Petition represents a true win-win and proposes the regulatory changes needed to bring these promises to fruition.

The communications sector is in the midst of a transformation—from legacy TDM to IP-based voice networks and services. The deployment of Voice over Internet Protocol ("VoIP") services has been underway for more than a decade and is now offered by countless service providers. In 2014, the Commission opened a docket to set the ground rules for the transition to IP-based networks from legacy TDM networks.[2] However, AT&T and other wireless carriers are already rapidly deploying VoIP services, including Wi-Fi Calling and Voice over Long-Term Evolution ("VoLTE"). Verizon has announced its intention to transition to a VoLTE-only network by early next year.[3] T-Mobile[4] and Sprint[5] have deployed and are widely advertising

[2] *Technology Transitions*, AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition, Order, Report and Order, FCC 14-5, GN Docket No. 13-5, GN Docket No. 12-353, 29 FCC Rcd 1433 (2014) ("Technology Transition Order").

[3] Communications Daily, *Verizon Moving to VoLTE Everywhere, but Traditional Network Important to IoT, CFO Says* (May 20, 2015).

Wi-Fi calling across their networks. And AT&T hopes to begin offering its own Wi-Fi calling service later in 2015.[6]

The Commission has long recognized that significant technology transitions require regulatory flexibility to ensure that new technologies are not stifled by old regulations. Indeed, Commissioner Michael Copps articulated just this sentiment more than a decade ago in the context of the proliferation of VoIP services:

> It's incumbent on us to identify good policy going forward and not just shoehorn VoIP into statutory terms or regulatory pigeon-holes without adequate justification. It's no slam-dunk that the old rules even apply. But we do need to discuss the consequences of the proliferation of VoIP services on our important statutory objectives—universal service, homeland security, 911 services, *accessibility by people with disabilities*, and encouraging the build-out of advanced telecommunications services. We need to craft a space in which this technology succeeds because of its inherent ability, not due to regulatory arbitrage or exception.[7]

As VoIP service becomes the preferred platform for voice communications, regulatory relief from TTY requirements is a necessary first step that will allow for the emergence of new IP-based accessibility solutions for persons with disabilities.

TTY—a legacy assistive technology developed 50 years ago—is obsolete, and accordingly, regulatory obligations to support the technology on next generation IP platforms are anachronistic. As the Commission acknowledged more than four years ago, "[t]he disabilities

---

[4] T-Mobile, *Now Every Wi-Fi Connection Works Like a T-Mobile Tower*, http://www.t-mobile.com/offer/wifi-calling-wifi-extenders.html (last visited May 22, 2015).

[5] Press Release, Sprint Delivers Expanded Connectivity with Free Wi-Fi Calling to Millions of iPhone Customers, http://newsroom.sprint.com/news-releases/sprint-delivers-expanded-connectivity-with-free-wi-fi-calling-to-millions-of-iphone-customers.htm (April 8, 2015).

[6] CNET, *AT&T plans to offer Wi-Fi calling in 2015* (Sept. 12, 2014), *available at* http://www.cnet.com/news/at-t-plans-to-offer-wi-fi-calling-in-2015/.

[7] Michael J. Copps, Commissioner, Opening Remarks at Voice Over Internet Protocol Forum, Washington, D.C. (Dec. 1, 2003) (emphasis added).

community considers TTY an antiquated technology with technical and functional limitations."[8] Thus, it is no surprise that TTY has been largely abandoned by persons with disabilities and surpassed by emerging solutions.[9] Equally important, and as explained more fully below, TTY is challenging to support with new VoIP technologies, especially wireless VoIP networks. Despite these drawbacks, TTY has remained an assistive technology that must be supported under Commission rules because of the lack of a viable alternative accessibility solution. AT&T's proposal would resolve this dilemma.

To solve the problem as to the lack of an alternative solution, AT&T is developing and will deploy RTT, which will provide superior functionality to TTY and deliver enhanced, interoperable disability access. RTT will allow service providers to offer fully accessible IP-based services that seamlessly integrate voice and text, obviating the need for external assistive devices and potentially reducing reliance on relay services. AT&T's RTT offering will also include an interworking gateway that makes RTT backward compatible with TTY, allowing AT&T RTT users to communicate with TTY users, including public safety answering points ("PSAPs"). AT&T hopes that its introduction of RTT will revolutionize disability access, providing IP-based voice services that offer significant benefits to the hearing loss community, the public at large, and the Interstate TRS Fund. AT&T has a proven track record of innovating to better serve consumers with disabilities. AT&T's pledge to deliver RTT is a continuation of

[8] *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, Framework for Next Generation 911 Deployment*, Notice of Proposed Rulemaking, FCC 11-134, PS Docket Nos. 11-153, 10-255, 26 FCC Rcd 13615, 13624 ¶ 26 (2011).

[9] *Id.* at 13629-30 ¶ 36.

this tradition and evidence of its intention to provide universal access to communications contemplated in the Commission's Technology Transition Order.[10]

To solve the problem of mandated TTY support under existing Commission rules, AT&T requests that the Commission initiate a rulemaking to modify its accessibility rules. Commission rule Sections 6.3(b), 7.3(b), 14.21(d), 20.18(c), and 64.603 refer expressly to TTY. Modifying these, and any other Commission rules requiring the provision of TTY, to recognize RTT as equivalent to and a replacement for TTY would encourage the deployment of IP-based voice services, and spur manufacturers and service providers, free from anachronistic TTY requirements, to develop RTT and potentially other innovative accessibility solutions.

II. DISCUSSION

A. RTT is Equivalent to and a Replacement for TTY.

RTT is the generally accepted accessibility solution to replace TTY for voice services that are rapidly moving to the VoIP platform. While TTY has served disabled consumers well, it was designed for a circuit-switched network environment. It was never intended to operate, and does not operate well, over IP networks that are replacing the public switched telephone network. By contrast, RTT is a native IP technology designed for today's packet-switched network environment. Moving forward, RTT offers the most robust accessibility solution and superior functionality for consumers.

Therefore, the Commission should initiate a rulemaking proceeding to update its rules to recognize RTT as a regulatory equivalent to and replacement for TTY for newly deployed IP-based voice services. Specifically, the Commission should determine that providing RTT functionality meets the accessibility requirements in Commission rule Section 20.18(c) for 911

[10] Technology Transition Order, 29 FCC Rcd at 1450-51 ¶¶50-53.

calling and Section 64.603 for 711 calling, as well as any other regulatory or statutory accessibility obligations, provided that the implementation is interoperable with (1) TTY (TIA-825A/ITU v.18 standard) until TTY is sunset, and (2) RTT with other VoIP networks. RTT that is interoperable (i.e. backwards compatible) with TTY and interoperable with SIP-based networks will allow for the implementation of enhanced accessibility technology without sacrificing existing accessibility solutions as carriers and customers transition to RTT.

1. TTY is a legacy technology with significant challenges and shortcomings.

Although TTY has enabled the transmission of messages by individuals with hearing and speech disabilities for decades, it has several disadvantages. Fundamentally, TTY is an assistive technology, not an accessible form of voice service. Individuals using TTY type messages onto an external TTY keyboard, which are encoded to Baudot tones, transmitted over a communications network, and decoded by a TTY receiver on the other end. But, TTY is slow and requires dedicated network resources, a separate assistive device, and significant network bandwidth. TTY is also half-duplex, preventing interactive, conversational communications; when one TTY user is transmitting, the other TTY user must wait. In this way, the exchange is more akin to communication over a walkie-talkie than conversational communication over a telephone.

In addition to these inherent flaws, there are serious technical hurdles to the successful provision of TTY over IP communications platforms.[11] TTY (Baudot) character strings use 1400

[11] Over the years, as communications moved from wireline to wireless, and from analog wireless to digital wireless, the telecommunications industry has extended support for TTY through a series of patches and workarounds. However, this industry practice finally has reached a dead-end with the implementation of IP networks. TTY suffers from too many incompatibilities with IP networks to be effectively and efficiently implemented as an accessibility solution for these networks.

and 1800 Hz tones, which can appear as an echo or unvarying noise when transmitted over IP networks because of the echo cancellation techniques designed to improve the quality of IP-based communications. Those TTY tones are also subject to packet loss, where packets of data sent over the IP network do not reach the receiving party. TTY is much more sensitive to packet loss than simple voice services. Although compression coder/decoders ("codecs"), such as G.711, and quality of service techniques allow some VoIP networks, such as AT&T U-verse, to support TTY, they are bandwidth intensive and therefore not conducive to use with bandwidth-efficient wireless networks. Further, some bandwidth-management algorithms use compression techniques that are optimized for voice communications, but can distort TTY tones. When one of these impairments affects either the Baudot start bit or stop bit, synchronization is lost between the sending and receiving TTY devices and the transmission is totally garbled until synchronization is re-established. Suffice it to say, when a TTY communication fails, it fails badly.

2. Other TRS offerings do not make voice service inherently accessible and are resource intensive.

As the Commission has acknowledged in the 911 accessibility context, "relay services have distinct limitations and are not an acceptable substitute for direct text access . . . ."[12] Like TTY, other forms of TRS, such as IP captioned telephone service ("CTS") or IP Relay service, use an operator to relay conversations between third parties and persons who are deaf, hearing impaired, or speech-impaired. However, the use of a relay operator inherently has flaws. Relay callers can experience delays connecting to, and relaying information through, the relay operator.

[12] *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, Framework for Next Generation 911 Deployment*, Policy Statement and Second Further Notice of Proposed Rulemaking, FCC 14-6, PS Docket Nos. 11-153, 10-255, 29 FCC Rcd 1547, 1562 ¶ 37 (2014).

Communications are subject to mistakes during the relay process. Finally, sharing messages with the relay operator negates privacy for each party to the call. Although TRS operators are prohibited from divulging the contents of a relay call, the very presence of the operator on a call where potentially personal or intimate matters are discussed can be discomforting and chill the conversation.

In addition to these well-known limitations, TRS is resource-intensive and relies on a fund that is insufficient to support the continued spiraling cost of the services. For the upcoming 2015-2016 fiscal year, the Interstate TRS Fund administrator, Rolka Loube Associates LLC, projects a Fund revenue requirement of over $1 Billion.[13] The 2015-2016 proposed funding for IP CTS alone is nearly $364 Million, representing potential reimbursement for 202,651,451 minutes, a significant increase compared to projections of 130,883,347 minutes for the previous year.[14] These increases in the Interstate TRS Fund are not sustainable. Expeditious action on this Petition would not only benefit current relay users by giving them an alternate platform on which to communicate, but also could relieve some of the financial pressure on the Interstate TRS Fund. Given the Commission's concerns about the ability of the Fund to support TRS costs,[15] this Petition provides a roadmap for a partial solution.

---

[13] *Payment Formulas and Funding Requirement For The Interstate Telecommunications Relay Services Fund For The 2015-16 Fund Year*, Public Notice, DA 15-612, CG Docket No. 03-123 CG Docket No. 10-51, at 4 (released May 20, 2015).

[14] *Id.* at 5.

[15] *See e.g., Structure and Practices of the Video Relay Service Program*, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-54, CG Docket No. 10-51, 26 FCC Rcd 5545, 5546 ¶ 1 (2011) (recognizing that fraud is one of the threats to the long-term sustainability of the Fund); *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Order, DA 08-303, CG Docket 03-1234, 23 FCC Rcd 1680, 1682 ¶¶ 5–7, (2008) (recognizing that "the present Fund size may be inadequate to compensate providers for the remainder of [that year].").

3. RTT will provide enhanced disability access without the flaws or limitations of legacy solutions.

Deployment of RTT will yield numerous benefits for accessibility and network management. RTT is a true accessibility solution, enabling the transmission of text within a voice call whereby users can communicate using text only or text and voice simultaneously.[16] RTT allows for direct user-to-user conversations without the need for an intermediary relay operator and those conversations would experience fewer delays and technical issues than is typical for TTY. Also unlike TTY, RTT conversations would be full-duplex, allowing both parties to communicate simultaneously, including real-time editing of text, e.g. backspacing and retyping. RTT also enables enhanced features, such as a full set of characters, including those used in foreign languages.

In addition, RTT is less-expensive and easier for consumers to use, excepting deaf-blind users, typically requiring no external assistive device. Instead, RTT will allow consumers to conduct conversations using the functionality native to their mobile devices, or with a standard Bluetooth keyboard. RTT can be expected to diminish the need for relay services, and, accordingly, relieve the current demands on the Interstate TRS Fund. Finally, RTT is less resource-intensive than TTY because it uses low-bandwidth transmissions, a particularly beneficial attribute when used on bandwidth efficient wireless networks.

Backwards compatibility is a key feature to RTT's suitability as a long-term replacement for TTY—particularly given the current technological landscape and the need for features such as 911 calling to resource-constrained PSAPs. Using an RTT-TTY interworking gateway that

[16] On a TTY call, the use of simultaneous voice and text is called Voice Carry Over (VCO) and Hearing Carry Over (HCO).

AT&T is building into its network, individuals using RTT will be able to communicate with TTY users and all PSAPs, without any added costs to the TTY user or the PSAP.

Furthermore, RTT is widely recognized as the future of interoperable, accessible, text-based communications. Numerous standards setting bodies—including entities within the federal government and the Commission itself—have singled out RTT as the optimal solution and advocated for regulatory changes that would permit the use of RTT to achieve accessibility for persons with disabilities. Emphasizing the technological superiority of and consumer demand for RTT solutions, the Commission's Emergency Access Advisory Committee ("EAAC") has recommended that the Commission "remove the requirement for TTY . . . support for new IP-based consumer devices that implement IP-based text communications that include, at a minimum, real time text."[17] Similarly, in its Information Communication Technology (ICT) Standards and Guidelines Notice of Proposed Rulemaking, the U.S. Access Board proposes requiring that "ICT support RTT functionality whenever such ICT also provides real-time, two-way voice communication," finding that "technology has greatly advanced" since the existing guidelines were published, and "[t]his proposed revision will update the standards to reflect changes in telecommunications technology."[18] Industry standards setting bodies—including the

[17] Emergency Access Advisory Committee (EAAC) Report on TTY Transition, 4-5, 7, 26 (2013), *available at* https://apps.fcc.gov/edocs_public/attachmatch/DOC-319386A1.pdf. The EAAC defines RTT as "Text transmitted instantly while it is being typed or created. The recipient can immediately read the sender's text as it is written, without waiting." *Id.* at 6.

[18] *Information and Communication Technology (ICT) Standards and Guidelines*, Notice of Proposed Rulemaking, 80 FR 10880, 10900 (2015).

National Emergency Number Association, GSMA, and 3GPP—likewise have touted the technological and accessibility benefits of RTT as a next-generation solution to replace TTY.[19]

B. The Commission Should Revise its Rules to Recognize RTT as an Acceptable Accessibility Solution.

In light of the superiority of RTT as an accessible, text-based communications solution, the Commission should institute a rulemaking that enables VoIP providers and device manufacturers to support RTT in place of TTY to satisfy all relevant regulatory requirements. In particular, the Commission should determine that RTT is an acceptable mechanism to comply with two specific regulations: (1) Rule Section 20.18(c),[20] which requires commercial mobile radio service (CMRS) providers to transmit 911 calls through means other than the mobile radio handset, e.g. TTY, the only current means to meet this requirement; and (2) Rule Section 64.603,[21] which requires common carriers, including VoIP providers,[22] to support toll-free

[19] *See, e.g.*, Comments of The National Emergency Number Association at 14, *Facilitating the Deployment of Text-to-911 and other Next Generation 911 Applications*, PS Docket Nos. 10-255 and 11-153 (2011) (explaining that "no single solution offers the robustness, functionality and cost effectiveness of SIP/RTT based text," and that RTT "will further enhance the conversational nature of calls, allowing for faster, more accurate communication between telecommunicators and callers, and will better emulate the flow of TTY conversations to which many deaf or hard of hearing users are accustomed."); 3rd Generation Partnership Project, Technical Specification Group Services and System Aspects; Global Text Telephony (GTT); Stage 2 (Release12), 3GPP TS 23.226 V12.0.0 at Section 5.1 (2014); (endorsing use of RFC 4103); GSM Association, Official Document, "IMS Profile for Voice and SMS" PRD IR.92 at Annex B (Discussing the need for GTT/TTY to use RTT pursuant to 3GPP TS 26.114, which in turn references IETF RFC 4103).

[20] 47 C.F.R. § 20.18(c).

[21] 47 C.F.R. § 64.603.

[22] *See IP-Enabled Services, et al*, Report and Order, FCC 07-110, WC Docket No. 04-36, WT Docket No. 96-198, CG Docket No. 03-123, CC Docket No. 92-10522, 22 FCC Rcd 11275, 11296 ¶ 42 (2007).

dialing to all relay services, including TTY, via the "711" dialing code.[23] More broadly, the Commission should modify all TTY specific rules, such as the compatibility requirements under the Commission's rules implementing Sections 255 and 716 of the Communications Act.[24]

Although TTY is falling out of use and eventually will be replaced altogether by RTT, to properly phase-out TTY and preserve expected service levels for persons with disabilities, the Commission should establish RTT as an alternative to TTY in the short-term. This will allow service providers and device manufacturers sufficient flexibility to implement the accessibility solutions that make the most sense for a particular service, thereby enabling carriers to offer optimized accessibility solutions (e.g., either TTY or RTT) across all services to the benefit of consumers with hearing and speech disabilities. Importantly, RTT would enhance the accessibility solutions available to persons with hearing and/or speech impairments without sacrificing existing accessibility solutions, such as TTY. RTT and TTY can coexist for the immediate future, with TTY being supported over legacy networks and technologies while new technologies shift to RTT. And the interoperability requirements recommended above would eliminate concerns that the two technologies are incompatible and do not facilitate communications between RTT and TTY users.

[23] *IP-Enabled Services, et al*, Order, DA 07-4178, WC Docket No. 04-36, WT Docket No. 96-198, CG Docket No. 03-123, CC Docket No. 92-105, 22 FCC Rcd 18319, 18320 ¶ 1 (2007) ("Among the requirements extended to interconnected VoIP providers is the obligation to offer 711 abbreviated dialing access to traditional relay services via a voice telephone or a text telephone (TTY)"). The ability of carriers to use RTT to satisfy § 64.603 would not impact individuals' ability to call 711 to access TRS, as carriers would continue to support non-TTY calling to relay centers via 711 dialing. However, to remove any regulatory uncertainty, the Commission should make clear that RTT functionality would satisfy the 711 obligations to the same extent as TTY.

[24] 47 U.S.C. §§ 255, 617. *See* 47 C.F.R. §§ 6.3(b), 7.3(b), 14.21(d).

Adapting the Commission's accessibility requirements to allow for the use of RTT will have enormous public interest benefits. Using RTT technology, a person who is deaf or has a hearing or speech impairment, for the first time ever in the U.S., will have the ability to participate in a real-time, intermediary-free conversation with anyone else, without the need for a peripheral device, while still being able to communicate with parties using legacy accessibility solutions. Allowing the use of RTT to satisfy Commission legacy accessibility requirements will also facilitate more reliable access and features for persons with disabilities, more efficient use of carrier network resources, and reduced demand for TRS services.

III. CONCLUSION

The ongoing transition to an all-IP network presents consumers with a wide range of exciting and innovative new products and services. AT&T believes that the deployment of RTT will one day be seen as a watershed moment in improving communications accessibility for persons who are deaf or are hearing and/or speech-impaired. To facilitate this leap forward, the Commission should initiate a rulemaking proceeding to expressly recognize RTT as equivalent to and a replacement for TTY.

June 12, 2015

Respectfully Submitted,

Larry Jones
Robert Vitanza
Gary Phillips

AT&T Services, Inc.
208 S. Akard St., Rm 3001
Dallas, Texas 75202
214-757-7944

Counsel for AT&T Services, Inc.

EXHIBIT B

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993	)	WT Docket No. 15-125
	)	
Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services	)	
	)	

COMMENTS OF AT&T

James P. Young
Christopher T. Shenk
Rishi P. Chhatwal
Sidley Austin LLP
1501 K Street, N.W.
Washington, D.C. 20005
(202) 736-8000

Michael P. Goggin
Linda Hood
David L. Lawson
AT&T Services, Inc.
1120 20th Street, N.W.
Washington, D.C. 20036
(202) 457-2055

Counsel for AT&T

June 29, 2015

TABLE OF CONTENTS

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993	)	WT Docket No. 15-125
	)	
Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services	)	
	)	

COMMENTS OF AT&T

AT&T Services, Inc. respectfully submits these comments on behalf of itself and its wireless affiliates (collectively, "AT&T") pursuant to the *Public Notice* released on May 29, 2015 in the above-captioned proceeding.[1]

INTRODUCTION AND SUMMARY

The Commission's latest wireless competition report demonstrates, once again, that the wireless mobile marketplace is extremely competitive. For the period covered, the *Seventeenth Report* provides a vast array of data confirming that output continues to grow, prices continue to decline, penetration is high among all demographics, speeds are faster, innovation continues to increase at a dramatic pace, and quality of service is at record levels.

Over the past year, as any casual observer can attest, competition has gone into overdrive. Mobile providers are competing fiercely on price, offering a wide variety of new data plans and promotions such as shared data plans, equipment installment plans, and offers aimed at providing incentives for customers to switch carriers. Indeed, hardly a week goes by without a provider

[1] Public Notice, *Wireless Telecommunications Bureau Seeks Comment on the State of Mobile Wireless Competition*, WT Docket No. 15-125 (rel. May 29, 2015) ("*Public Notice*").

responding to the latest offers in the marketplace with new and better service plan options, lower prices, and special promotions. One independent analyst recently found that "price cuts drove an 8.9% drop in industry postpaid ARPU" in the first quarter of 2015,[2] and CTIA's latest survey similarly found a 4.4 percent decline in monthly service ARPU during the calendar year 2014.[3] But even as consumers are paying less, they are getting more for their money. All of the major providers are upgrading and expanding their LTE networks. Faster networks are, in turn, driving rapidly increasing usage. According to CTIA, consumers used an astonishing 4.06 trillion MB of data in 2014, up 26 percent from 2013.[4] Those trillions of MB represent consumers using their wireless connectivity to access an ever-expending set of applications and services in the broader wireless ecosystem, from video to connected cars to the endless possibilities of the "Internet of Things."

The Commission can no longer turn a blind eye to these developments in order to expand its regulatory powers. The wireless marketplace is effectively competitive and, indeed, more fiercely competitive than ever. A candid Report to Congress would recognize that.

In Part I of these comments, we briefly discuss the structure of the marketplace, which is inherently open to competition. In Part II, we discuss the many ways in which consumers today are reaping unprecedented benefits from that competition, including through both (1) lower prices and (2) faster networks that facilitate access to a broader set of offerings in the ecosystem.

[2] UBS, "US Wireless 411: Version 56, Addressing the Key Questions in wireless," May 14, 2015 ("UBS Report") at 1, 2.

[3] CTIA – The Wireless Association, "CTIA Survey Documents Dramatic U.S. Wireless Performance" (June 17, 2015), at 3 ("CTIA 2014 Release").

[4] CTIA 2014 Release at 3.

I. THE WIRELESS MARKETPLACE IS STRUCTURALLY COMPETITIVE.

The *Seventeenth Report*, along with developments since that report, confirm that the industry structure of the wireless marketplace is fundamentally open and intensely competitive. There are four strong facilities-based nationwide wireless providers today, along with many additional regional and local facilities-based providers that use a combination of their own facilities and roaming arrangements to offer nationwide service.[5] The *Seventeenth Report* documents that Americans have many choices: 97 percent of Americans can choose from at least three wireless providers, and 91.4 percent can choose from at least four.[6] Equally important, the *Seventeenth Report* confirms that mobile *broadband* coverage is expanding rapidly: as of January 2014, 93.4 percent of Americans could choose between at least three wireless broadband providers, and 82.1 percent could choose between at least four.[7] If T-Mobile and Sprint follow through on their announced plans, all four national carriers will have deployed LTE to cover more than 300 million people by the end of 2015 – meaning that about 94 percent of Americans will soon have a choice of at least four *LTE* providers.

The fact that the marketplace is structurally open to competitive rivalry has been dramatically confirmed most recently by the resurgence of T-Mobile. Over the last two years, T-Mobile has made a concerted effort to address its previous missteps and become a more effective competitor. It has acquired a large store of spectrum both in the secondary market and from its acquisition of MetroPCS, giving it substantial holdings in the AWS and PCS bands as well as

---

[5] Seventeenth Report, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, 29 FCC Rcd. 15311, ¶¶ 12-14 (2014) ("*Seventeenth Report*").

[6] *Seventeenth Report* ¶ 47 & Chart III.A.1.

[7] *Seventeenth Report* ¶ 51; *see also id.* ¶ 50 ("Mobile broadband coverage has generally increased since the *Sixteenth Report*.").

700 MHz A Block spectrum in many major markets. It has rapidly deployed an LTE network that it claims reaches 280 million people as of the end of the first quarter of 2015.[8] It has heavily advertised its "Un-Carrier" service plans and promotions. As a result of these initiatives, T-Mobile has achieved more than one million net adds in each of the last eight quarters – including 1.8 million in first quarter of 2015[9] – bringing its total customer count to 57 million and all but overtaking Sprint as the nation's third largest carrier.[10]

Moreover, although T-Mobile claims otherwise when it is seeking spectrum set-asides and other regulatory favors, T-Mobile recently told its German parent Deutsche Telekom that its rapid growth in the U.S. marketplace is profitable and can continue.[11] Indeed, it noted that its "spectrum position provides [a] runway for continued growth," emphasizing that it has more

---

[8] Cam Bunton, *T-Mobile now covers 280 million people with LTE, same as Sprint*, TmoNews, May 14, 2015, http://www.tmonews.com/2015/05/t-mobile-now-covers-280-million-people-with-lte-same-as-sprint/ ("T-Mobile Covers 280M"); *see also* Phil Goldstein, *T-Mobile catches up with Sprint: Both carriers now cover 280 million POPs with LTE*, Fierce Wireless, May 14, 2015, http://www.fiercewireless.com/story/t-mobile-catches-sprint-both-carriers-now-cover-280-million-pops-lte/2015-05-14 ("T-Mobile Catches Up").

[9] T-Mobile, Press Release, "T-Mobile US Reports First Quarter 2015 Results," April 28, 2015, http://investor.t-mobile.com/file.aspx?IID=4091145&FID=29192161 ("T-Mobile 4/28/15 Press Release") ("1.8 million total net adds – 8th consecutive quarter over 1 million" . . . "1.1 million branded postpaid net adds – 3rd consecutive quarter over 1 million").

[10] *Id.*; *see also* Deutsche Telekom Capital Markets Day 2015, Bonn, Feb. 26-27, 2015, http://investor.t-mobile.com/Cache/1500068828.PDF?Y=&O=PDF&D=&fid=1500068828&T=&iid=4091145 (T-Mobile Capital Markets Presentation") T-Mobile Capital Markets Presentation at 7 (noting that T-Mobile has "added 22 million customers over the last two years," going from 33 million customers to 55 million at the end of 2014); Phil Goldstein, *T-Mobile's Carter: It's a 'myth' that Sprint needs to fail for us to succeed*, Fierce Wireless, Nov. 13, 2014, http://www.fiercewireless.com/story/t-mobiles-carter-its-myth-sprint-needs-fail-us-succeed/2014-11-13 (quoting T-Mobile CFO saying "that a 'common myth' has emerged in the industry that 'Sprint has to fail in order for T-Mobile to be successful. Contrary to popular belief, the vast majority of our flow is coming from AT&T and Verizon.'").

[11] T-Mobile Capital Markets Presentation at 34, 36.

spectrum per customer than any of the other national carriers.[12] T-Mobile crowed that it will "level the network coverage playing field in 2015 by expanding our blazing fast 4G LTE network to 300 million POPs, up from 0 in Q1 2013."[13] Significantly, that deployment includes considerable low-band spectrum: T-Mobile emphasized that "[c]urrently it own[s] or ha[s] agreements to own low-band spectrum for roughly 190 Million POPs" and, "[o]nce deployed, over 70% of T-Mobile's existing subscribers will have increased coverage through low-band [spectrum]."[14] T-Mobile has already deployed its 700 MHz A-Block spectrum in major market areas like Washington, D.C., Dallas, and Houston,[15] and it has also used its expanded spectrum portfolio to deploy Wideband LTE in 157 market areas (with a plan to deploy in more than 200 market areas by year-end 2015).[16] T-Mobile's CEO recently emphasized that "I think we have got huge headroom to grow competitively."[17]

---

[12] T-Mobile Capital Markets Presentation at 26. Indeed, T-Mobile recently touted that its "network has more spectrum capacity per customer than Verizon." T-Mobile Newsroom, Press Release, "T-Mobile Agrees. Never Settle… for Verizon," May 5, 2015, http://newsroom.t-mobile.com/news/news-never-settle-for-verizon.htm.

[13] T-Mobile Capital Markets Presentation at 5, 23.

[14] T-Mobile Capital Markets Presentation at 24.

[15] Phil Goldstein, *T-Mobile hopes to deploy LTE in all of its 700 MHz A Block spectrum this year*, Fierce Wireless, March 19, 2015, http://www.fiercewireless.com/story/t-mobile-hopes-deploy-lte-all-its-700-mhz-block-spectrum-year/2015-03-19.

[16] T-Mobile, T-Mobile US Reports First Quarter 2015 Results, http://investor.t-mobile.com/Cache/1001197520.PDF?Y=&O=PDF&D=&fid=1001197520&T=&iid=4091145 ("T-Mobile 1Q 2015 Release").

[17] Ritesh Anan, *T-Mobile CEO Says There's 'Huge Headroom To Grow Competitively'*, April 29, 2015, Benzinga, http://www.benzinga.com/media/cnbc/15/04/5453086/t-mobile-ceo-says-theres-huge-headroom-to-grow-competitively; *see also* T-Mobile 4/28/15 Press Release ("Raising subscriber outlook for 2015 while maintaining Adjusted EBITDA target: Guidance range for branded postpaid net adds increased to 3.0 to 3.5 million; Maintaining target of $6.8 to $7.2 billion of Adjusted EBITDA; Maintaining target of $4.4 to $4.7 billion of cash capex").

Sprint is competing vigorously as well. Japanese giant Softbank acquired Sprint in 2013, giving Sprint a deep-pocketed parent eager to rebuild Sprint as a major competitor.[18] Sprint has the most spectrum of any carrier in the marketplace by far, and it has deployed an LTE network using both 800 MHz and 2.5 GHz spectrum. Sprint's LTE network now covers "nearly 280 million POPs,"[19] and it is beginning deployment of both 2x20 MHz carrier aggregation using 2.5 GHz spectrum and LTE-Advanced.[20]

Sprint, like T-Mobile, clearly believes that it has the ability to compete successfully and grow its customer base in this marketplace. Its new CEO, Marcelo Claure, recently stated that "within two years, Sprint will have the top network among U.S. carriers."[21] Claure said "you can expect in the next 18 to 24 months . . . that our network will be ranked No. 1 or No. 2 [in network performance] in every single market."[22] And Sprint just announced that Softbank has agreed to provide the funding for a "massive network densification program," which would add

---

[18] Sue Marek, *Sprint's Claure: T-Mobile should step aside, we are the new industry distrupters*, Fierce Wireless, Sept. 11, 2014, http://www.fiercewireless.com/story/sprints-claure-t-mobile-should-step-aside-we-are-new-industry-disrupters/2014-09-11 (quoting Sprint CEO Claure saying "that Sprint would no longer sit back and let its competitors take the spotlight. 'We are now the disrupters in the industry'").

[19] Sprint, Presentation, FY4Q14 Results Conference Call, at 9, May 5, 2015, http://investors.sprint.com/Cache/1500071437.PDF?Y=&O=PDF&D=&FID=1500071437&T=&IID=4057219 ("Sprint Conference Call").

[20] *See* Dr. John Saw, Sprint, Chief Network Officer, "The Sprint Network is Getting Better Every Day" http://newsroom.sprint.com/blogs/sprint-perspectives/the-sprint-network-is-getting-better-every-day.htm; Matt Hamblen, *Sprint to rollout LTE Advanced to Chicago area*, Computer World, March 30, 2015, http://www.computerworld.com/article/2903874/sprint-to-rollout-lte-advanced-to-chicago-area.html (Sprint begins its LTE advanced rollout with Chicago in March 2015).

[21] Phil Goldstein, *Sprint's Claure: In 18-24 months, we'll be No. 1 or 2 in network performance*, Fierce Wireless, May 28, 2015, http://www.fiercewireless.com/story/sprints-claure-18-24-months-well-be-no1-or-2-network-performance/2015-05-28.

[22] *Id.*; *see also id.* ("He later clarified that he meant No. 1 or 2 in the United States' major markets, according to *CNET*").

thousands of new cell sites (including macrocells and small cells) to "dramatically increase coverage and capacity" in its LTE network.[23]

Other current and potential competitors ensure that the marketplace remains intensely competitive. Strong regional and local competitors, including US Cellular, C Spire, and nTelos, are upgrading to LTE and often hold a substantial share of the market in their service areas. Furthermore, DISH remains a very large potential competitor. It continues to amass a large national spectrum portfolio, holding 40 MHz of AWS-4 spectrum and the 700 MHz E Block in most of the country, and just recently winning more spectrum licenses than any other carrier in the AWS-3 auction (more than 700 licenses valued at more than $13.3 billion dollars). Although DISH is simply warehousing this spectrum as of today, the clock is ticking on its build-out requirements, and DISH's spectrum will inevitably enter the competitive fray either through build-out, sale, acquisition, wholesale arrangement, or partnership. And other new entrants are seeking to provide service with new business models, such as Google's "Project Fi," an MVNO combining Sprint and T-Mobile's cellular network with WiFi, which launched in April 2015.[24]

In short, the marketplace is inherently conducive to competition. Given that each carrier has made large investments in extensive networks, those carriers have every incentive to compete fiercely to win customers that will fill those networks with traffic. And given that there

---

[23] Phil Goldstein, *Sprint gets OK from SoftBank to move ahead on network densification plan,* Fierce Wireless, June 3, 2015, http://www.fiercewireless.com/story/sprint-gets-ok-softbank-move-ahead-network-densification-plan/2015-06-03; *see also* Sprint Conference Call at 16 (Sprint expecting accrued capex of approximately $5 billion in 2015).

[24] Chris Welch, *Google launches its own mobile network for Nexus 6 owners*, The Verge, April 22, 2015, http://www.theverge.com/2015/4/22/8467433/google-launches-mobile-service/in/8235510. Google's service has a pricing structure of $10 per gigabyte for cellular data used within the United States and covered international destinations (with unlimited talk and text), and a refund for unused cellular data at a prorated rate on the following month's bill. Overages are similarly prorated for usage based on $10 per GB used. Project Fi users incur no line access charges. *Id.*

are so many significant and experienced competitors that have large spectrum positions, substantial customer bases, and the resources to continually invest in network improvements, no single mobile provider could have any hope of achieving a dominant position in today's dynamically changing marketplace.[25]

II. CONSUMERS ARE REAPING UNPRECEDENTED BENEFITS FROM TODAY'S ROBUST COMPETITION.

Competition in the wireless marketplace has intensified considerably in the last year. Wireless providers are competing fiercely on price, and the latest data confirm that consumers are benefiting from lower prices. Wireless providers are also competing to enhance their networks, completing deployments of LTE and moving to enhance those deployments with more advanced technologies and network "densification" efforts. Consumers are reaping the benefits of those improvements, enjoying better offerings for lower prices and using a broader range of applications and services in the wider and ever-expanding wireless ecosystem.

A. Consumers Are Benefiting From Intense Competition on Price.

The *Seventeenth Report* notes that the "Wireless Telephone Service CPI" *decreased* by nearly 43 percent from 1997 to the end of 2013, even though the nation's overall CPI *increased*

[25] The Commission notes that its special "weighted average" of the Herfindahl-Hirschman Index ("HHI") experienced a "small increase" from the end of 2012 to the end of 2013, partly due to T-Mobile's acquisition of MetroPCS (which the Commission found to be in the public interest). *See Seventeenth Report* ¶ 33. Measures of concentration like the HHI are meaningless by themselves, and it has been "many years since anyone knowledgeable about" competitive analysis "thought that concentration by itself imported a diminution in competition." *Capital Cities/ABC, Inc.* v. *FCC*, 29 F.3d 309, 315 (7th Cir. 1994). Even in the context of a merger review, the HHI is merely an initial screen, to determine whether it would be useful to take a closer look at the actual marketplace facts, and here the competitive facts overwhelmingly confirm that the wireless marketplace is competitive. Moreover, as AT&T has previously explained, the Commission's "weighted average" provides a misleading picture of concentration, allowing rural HHIs to dominate the average and masking the fact that the overall national HHI is far lower and that most Americans live in areas with much lower HHIs. *See* Comments of AT&T, *In the Matter of The State of Mobile Wireless Competition*, WT Docket No. 10-133, at 16, at 16-23 (July 30, 2010).

by 34 percent over the same period.[26] In the period following the issuance of this report, this trend continued. From January 2014 to January 2015, the Wireless CPI decreased by 4.3 percent, while the national CPI decreased by only 0.1 percent.[27]

These declining prices are reflected in declining ARPU, even as consumption of wireless services continues to increase. As one independent analyst has documented, "price cuts drove an 8.9% drop in industry postpaid ARPU" in the first quarter of 2015, which followed a 7.3 percent decline in the fourth quarter of 2014.[28] CTIA's latest survey similarly documents a 4.4 percent decline in monthly service ARPU during the calendar year 2014.[29] Consumers are benefitting, not only from declining prices, but from more choices as wireless providers have introduced a wide variety of innovative pricing plans and promotions. Such offers include increased price-plan choices, the addition of more mobile data allotment choices and lower price points, and the continuation of equipment installment plans (with new and innovative terms) combined with a reduction in monthly recurring charges.[30] As consumers embrace these alternatives and shop for

[26] *Seventeenth Report* ¶ 41 & Table II.D.ii.

[27] See Bureau of Labor Statistics, *CPI Detailed Report, Data for January 2015*, at 27, 36, http://www.bls.gov/cpi/tables.htm.

[28] UBS Report at 1, 2. However, as AT&T has previously stated, although ARPU data can be a useful metric, it is neither a measure of price nor quantity but is a function of both, and therefore must be properly examined in context. Thus, if (as in the wireless industry), a growing proportion of a provider's customers are purchasing more data services, ARPU may increase even if the per unit prices have all declined. *See* Comments of AT&T, Inc., *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 13-135, at 16 n.66 (June 17, 2013).

[29] CTIA 2014 Release at 3.

[30] *See, e.g.*, Phil Goldstein, *Analysts: Verizon's new price cuts indicate willingness to take on Sprint, T-Mobile*, Fierce Wireless, Feb. 5, 2015, http://www.fiercewireless.com/story/analysts-verizons-new-price-cuts-indicate-willingness-take-sprint-t-mobile/2015-02-05.

deals, many of these innovative pricing plans are fundamentally changing how consumers purchase wireless services.

For example, the *Seventeenth Report* notes that a number of providers debuted "shared" data plans that allow customers to share data allotments across family members and devices,[31] and consumers are accelerating their shift to such plans as providers compete to make them more attractive. All of the major carriers have been increasing the amount of data available to customers via these shared plans and at the same or lower prices. In 2014, AT&T launched its Mobile Share Value plans, which give customers reduced access charges when purchasing a device on Next or at full price, and to customers who bring their own devices to AT&T. Toward the end of 2014 and early 2015, AT&T launched a promotion that cut the price of its top-end 15 GB plan to the previous 10 GB price of $100 per month, and doubled the amount of data offered on its 15, 20, 30, 40, and 50 GB plans to 30, 40, 60, 80, and 100 GB with no increase in the price of the plans.[32] T-Mobile dropped the price of its largest 4G LTE family plan by 29 percent at the end of 2014,[33] and U.S. Cellular announced in early 2015 that it was dropping prices and adding data to its shared data offerings.[34] In April 2015, after cutting prices across the board in

[31] *Seventeenth Report* ¶¶ 135-139. Most, if not all, of these shared data plans also include unlimited voice minutes and text messaging.

[32] Phil Goldstein, *AT&T cuts price of 15 GB shared data plan by $30*, Fierce Wireless, April 24, 2015, http://www.fiercewireless.com/story/att-cuts-price-15-gb-shared-data-plan-30/2014-11-18.

[33] *See Seventeenth Report* ¶ 138; *see also* Steven Musil, *T-Mobile launches new $100 unlimited shared data plan*, CNET, Dec. 9, 2014, http://www.cnet.com/news/t-mobile-launches-unlimited-shared-data-for-100/.

[34] Scott Webster, *U.S. Cellular shakes up prices for shared data plans*, CNET, Feb. 24, 2015, http://www.cnet.com/news/u-s-cellular-shakes-up-prices-for-shared-data-plans/ (for example, "subscribers can now receive 3GB of data for the same cost as the [previous] 2GB plan").

February 2015,[35] Verizon Wireless reintroduced "promotional pricing" from November 2014, dropping its 10 GB shared data offering 20 percent and reintroducing a 15 GB offering at the price of its previous 10 GB shared data plan.[36] Carriers are also offering consumers more choices of data allotments, with AT&T offering 10 Mobile Share Value plan allotments, including a mid-tier 6 GB offering.[37] These data plans, particularly with larger data allotments and price cuts, can result in significant consumer savings.[38]

In addition to these initiatives, AT&T announced earlier this year that it was re-launching its "Rollover" concept for mobile data, allowing its Mobile Share Value plan customers to rollover their unused data from their monthly data allotment to the next month.[39] Both AT&T and Verizon announced that tablets and certain connected devices can be added to shared data plans for $10 per month, and laptops and hotspot devices can be added for $20 per month, far less than purchasing separate plans for these devices.[40] And T-Mobile has continued its "Un-carrier" strategy by introducing "Data Stash," which allows unused high-speed data to essentially

---

[35] Phil Goldstein, *Verizon cuts prices on most of its More Everything shared data plans, adds new options*, Fierce Wireless, Feb. 4, 2015, http://www.fiercewireless.com/story/verizon-cuts-prices-most-its-more-everything-shared-data-plans-adds-new-opt/2015-02-04.

[36] Phil Goldstein, *Verizon reintroduces promotional $80/10 GB and $100/15 GB shared data plans*, Fierce Wireless, April 24, 2015, http://www.fiercewireless.com/story/verizon-reintroduces-promotional-8010-gb-and-10015-gb-shared-data-plans/2015-04-24.

[37] AT&T, Mobile Share Value Plans, http://www.att.com/shop/wireless/data-plans.html.

[38] *See, e.g.*, Zach Epstein, *Wireless price war continues: Verizon data plan price cuts will save you $120*, BGR, Feb. 4, 2015, http://bgr.com/2015/02/04/verizon-more-everything-plan-discount/ (noting that Verizon is cutting prices in response to T-Mobile's "UnCarrier" strategy, and so Verizon customers could save $120 on MRCs).

[39] AT&T, Press Release, "AT&T Gives More Than 50 Million Mobile Share Value Subscribers Shareable Rollover Data," Jan. 7, 2015, http://about.att.com/story/att_gives_50_million_customers_shareable_rollover_data_at_no_charge.html.

[40] AT&T, Mobile Share Value Plans, http://www.att.com/shop/wireless/data-plans.html; Verizon Wireless, 2 Steps to Building Your MORE Everything Plan, http://www.verizonwireless.com/landingpages/more-everything/#how-it-works.

roll-over each month for up to a year, and gives each customer 10 GB in their "Data Stash" to start.[41]

Carriers are also offering particularly favorable line access charges to customers who bring their own devices, purchase phones outright, or use providers' equipment installment plans (EIPs). These EIPs, which AT&T, T-Mobile, Sprint, and Verizon all offer, have become extremely popular in a short amount of time. Indeed, many (if not a majority) of new smartphone activations are based on such plans: "[t]oday, 65% of new postpaid plans with AT&T use their [N]ext plan and Verizon is seeing a 50% rate of Edge sign-ups."[42] Sprint saw 46 percent of its smartphone lines activated on an EIP program in the fourth quarter of 2014, and *all* of T-Mobile's Simple Choice plan activations (other than customers who bring their own phones) are on its version of an EIP.[43] Sprint also recently announced a "Lease" option that allows customers to obtain a smartphone at an even lower monthly cost (with a purchase or return option at lease-end).[44] With the advent of these EIPs, two-year contracts and early termination fees are becoming markedly less prevalent.

Pricing competition among prepaid providers is likewise intense. Following Commission approval of the AT&T/Leap transaction in March 2014, Cricket launched its new brand with a line-up of rate plans that include roaming, taxes and other fees for a single "all in" price.

---

[41] T-Mobile, Press Release, "T-Mobile Unveils Data Stash – Now Your Unused Data Rolls Forward," Dec.16, 2014, http://newsroom.t-mobile.com/news/uncarrier-8.htm.

[42] Cherie Ve Ard, *Equipment Installment Plans Become More Prevalent than Contracts with Cellular Carriers*, RV Mobile Internet Resource Center, May 27, 2015, http://www.rvmobileinternet.com/equipment-installment-plans-become-more-prevalent-than-contracts-with-cellular-carriers/.

[43] Phil Goldstein, *Analysts: Verizon's new price cuts indicate willingness to take on Sprint, T-Mobile*, Fierce Wireless, Feb. 5, 2015, http://www.fiercewireless.com/story/analysts-verizons-new-price-cuts-indicate-willingness-take-sprint-t-mobile/2015-02-05.

[44] Sam Mattera, *Should you Lease Your Next Sprint Smartphone?*, Daily Finance, April 20, 2015, http://www.dailyfinance.com/2015/04/20/should-you-lease-your-next-sprint-phone/.

Cricket's entry level data plans with unlimited talk, text, and data begin at $40/month with 2.5 GB of high-speed data on AT&T's nationwide 4G LTE network or $35/month after a $5/monthly Auto Pay credit. In response, T-Mobile's MetroPCS brand introduced a similar "all in" plan, albeit with less high-speed data (1 GB), for $30/month.[45] MetroPCS is also offering an unlimited 4G LTE plan for $60 per month,[46] which undercuts T-Mobile's post-paid offering by $20 per month.[47] T-Mobile, which has surpassed Sprint as the top prepaid phone provider in the United States,[48] announced a "Simply Prepaid" offering with unlimited talk, text, and unlimited data (with an allotment of high-speed data).[49] Another benefit now being offered to prepaid customers is data allotment rollover. Certain AT&T GoPhone plans allow any unused high-speed data from customers' monthly plan allowance to carry over to the next 30-day renewal period. T-Mobile Simple Choice prepaid plans also offer unused data rollover.[50] And Sprint Prepaid offerings include rollover of up to 30 GB of data that does not expire. In addition, Sprint, through its Virgin Mobile prepaid brand, launched shareable data in the prepaid sphere in

---

[45] Lance Whitney, *MetroPCS crafts unlimited phone plan for $30 a month*, CNET, Mar. 24, 2015, http://www.cnet.com/news/t-mobiles-metropcs-offers-unlimited-plan-for-30-a-month/.

[46] MetroPCS, Plan Details, https://www.metropcs.com/cell-plans/plans/details/GSM60.html.

[47] *See* T-Mobile, Plan Details, http://www.t-mobile.com/cell-phone-plans/individual.html.

[48] Williams Pelegrin, *T-Mobile Surpasses Sprint to Become the Top Prepaid Phone Service in the U.S.*, Digital Trends, Aug. 7, 2014, http://www.digitaltrends.com/mobile/t-mobile-now-united-states-top-prepaid-phone-service-provider/.

[49] Malarie Gokey, *T-Mobile's Simply Prepaid Plans Strengthen Its Lead Over Sprint*, Digital Trends, Jan. 15, 2015, http://www.digitaltrends.com/mobile/t-mobile-simply-prepaid-plans-news/; Daniel Kline, *Did T-Mobile Just Introduce the Cheapest Prepaid Wireless Plan From A Major Carrier?*, The Motley Fool, Jan. 20, 2015, http://www.fool.com/investing/general/2015/01/20/did-t-mobile-just-introduce-the-cheapest-pre-paid.aspx.

[50] *Sprint Prepaid Monthly Rolling Data Now Included on All Plans Starting at $35/Month, Available Exclusively at Best Buy*, Business Wire, June 2, 2015, http://www.businesswire.com/news/home/20150602006370/en/Sprint-Prepaid-Monthly-Rolling-Data-Included-Plans#.VXRync9Vi4p.

January 2015.[51] Total Wireless, a TracFone offering that utilizes the Verizon Wireless network, also now offers shared data.[52]

Device financing options are also enabling wireless providers to help prepaid customers get the latest, premium devices even faster. For example, earlier this year, Cricket announced the availability of device financing through a third-party, making it the first national prepaid wireless carrier to offer three distinct credit financing options, including a rent-to-own leasing option for qualified customers – all with no annual service contract.[53]

Consumers are responding to this competition and face no significant obstacles if they want to change providers. Indeed, even though providers are bending over backward to keep their customers in the face of intense competition, churn rates continue to range from about 1 to 2 percent in the second quarter of 2015 (and higher still for prepaid services).[54] That translates into customer turnover among carriers in the tens of millions each year.[55] These statistics are an obvious real-world demonstration that customers can and do take advantage of the competitive options available to them.

---

[51] Phil Goldstein, *Sprint dumps Virgin Mobile Custom brand, but keeps Its Own technology and Walmart partnership*, Fierce Wireless, Jan. 16, 2015, http://www.fiercewireless.com/story/sprint-dumps-virgin-mobile-custom-brand-keeps-itson-technology-and-walmart/2015-01-16.

[52] Dennis Bournique, *TracFone Launches New "Total Wireless" Verizon Based MVNO*, Prepaid Phone News, Feb. 23, 2015, http://www.prepaidphonenews.com/2015/02/tracfone-to-launch-total-wireless.html.

[53] Scott Webster, *Cricket Wireless intros financing and leasing options for prepaid phones*, CNET, April 8, 2015, http://www.cnet.com/news/cricket-wireless-intros-financing-and-leasing-options-for-phones/.

[54] UBS Report at 8.

[55] *See, e.g., Seventeenth Report* ¶ 27 (noting that churn rates of 2 percent indicates significant changes in a providers customer base).

B. Consumers Are Also Benefiting from Faster Networks, Which Are Driving Innovation and Dramatically Increased Usage.

Even as competition is reducing prices, consumers are getting more for their money. Wireless providers in the United States invested billions of dollars to enhance and expand their wireless networks in 2014, including deployment of advanced LTE services throughout the country. Faster networks translate into higher usage, as consumers take advantage of more advanced networks to access a deeper and richer ecosystem of applications and services. That has been the case in the last year, as data usage has continued to skyrocket and consumers use wireless services for a broader range of activities – including, increasingly, the "Internet of Things."

According to CTIA, wireless carriers made capital investments of about $32.1 billion in 2014, representing a 29 percent increase over the past four years.[56] U.S. Carriers also invested heavily in "densifying" their networks, with both additional macro cells and small cells.[57] AT&T's nationwide network covers more than 99 percent of Americans, with more than 308 million people covered by its 4G LTE network.[58] Verizon Wireless' LTE network also covers more than 300 million people in the United States.[59] T-Mobile reported that it had deployed 4G LTE to about 280 million people nationwide as of May 2015,[60] with a goal of reaching 300

[56] CTIA 2014 Release at 3.

[57] *See, e.g.*, Phil Goldstein, *Report: LTE infrastructure spending to peak at $23.3B in 2015, then start declining*, Fierce Wireless, June 5, 2015, http://www.fiercewireless.com/story/report-lte-infrastructure-spending-peak-233b-2015-then-start-declining/2015-06-05.

[58] AT&T, Network Featured Stories, http://about.att.com/news/wireless-network.html.

[59] Verizon, News Center, http://www.verizonwireless.com/news/LTE/Overview.html.

[60] T-Mobile Covers 280M, *see also* T-Mobile Catches Up.

million people by the end of 2015.[61] Sprint announced that, as of May 2015, its LTE network covers about 280 million people nationwide using 800 MHz and 2.5 GHz spectrum.[62] Sprint has stated that it plans to aggressively expand its network, adding up to 20,000 cell sites in addition to having already updated more than 38,000 cell sites as part of its "Network Vision" modernization program.[63]

Regional providers also have improved their networks. US Cellular will reportedly increase its 2015 network capital expenditure more than 7.5 percent to $600 million,[64] and "plans to cover essentially its entire customer base with LTE by the end of [2015]."[65] C Spire has continued its rollout of 4G LTE, and has announced that it is upgrading its LTE network to 4G LTE+, which includes fiber backhaul between cell sites, twice the number of receivers at each site, content caching, and network extending technologies like femtocells and distributed antenna systems.[66] C Spire's 4G LTE+ service covers more than 2.1 million people in Mississippi, Alabama, and Florida, and offers "wireless data speeds up to 10 times faster than previously

---

[61] *See* T-Mobile 1Q 2015 Release; *compare* T-Mobile, 2013 10-K Year End Filing, (noting that LTE deployment covered 200MM POPs).

[62]Sprint, News Release, "Sprint Reports Results for Fourth Fiscal Quarter of 2014" (May 5, 2015), http://investors.sprint.com/Cache/1500071435.PDF?Y=&O=PDF&D=&fid=1500071435&T=&iid=4057219.

[63] Phil Goldstein, *Sprint to expand and improve LTE network, may add up to 20,000 cell sites*, Fierce Wireless, Feb. 26, 2015, http://www.fiercewireless.com/story/sprint-expand-and-improve-lte-network-may-add-20000-cell-sites/2015-02-26.

[64] John Celentano, *U.S. Wireless CapEx Looking Up*, Above Ground Level, April 2, 2015, http://www.aglmediagroup.com/u-s-wireless-capital-expenditures-looking-up/.

[65] Phil Goldstein, *U.S. Cellular to expand LTE network cover 98% of its customers by end of 2015*, Fierce Wireless, April 1, 2015, http://www.fiercewireless.com/story/us-cellular-expand-lte-network-cover-98-its-customers-end-2015/2015-04-01.

[66] C Spire Wireless, 4G LTE+ Overview, http://www.cspire.com/cms/wireless/4Gplus/#overview.

available."[67] Regional carrier nTelos is investing $175 million to roll out LTE across its footprint under its "4G for All" network plan, utilizing its 1900 MHz spectrum.[68]

In addition, a number of carriers have begun to deploy more advanced technologies within their LTE networks to compete on speed, availability, and coverage. AT&T is currently deploying LTE-Advanced, which uses carrier aggregation to achieve much higher data throughput speeds (up to 300 megabits per second).[69] Verizon Wireless is testing its LTE-Advanced deployment,[70] and has already deployed LTE capacity increases via its XLTE product, which uses AWS spectrum, in more than 250 markets.[71] Sprint has also started implementing carrier aggregation across its spectrum bands as part of LTE-Advanced, in addition to continuing its LTE network buildout.[72] T-Mobile announced that it was "deploying Wideband LTE, while

---

[67] *C Spire Calls Wireless Enhancements "4G+"*, Telecompetitor, June 16, 2014, http://www.telecompetitor.com/c-spire-calls-wireless-enhancements-4g/.

[68] *nTelos Announces "4G for All" Network Expansion Plan, First LTE Launch of 2015*, Fierce Wireless, Feb. 2, 2015, http://www.fiercewireless.com/press-releases/ntelos-announces-4g-all-network-expansion-plan-first-lte-launch-2015.

[69] Mikael Ricknas, *As LTE-Advanced becomes more common, 4G speeds increase*, Computerworld, Jan. 9, 2015, http://www.computerworld.com/article/2866944/as-lte-advanced-becomes-more-common-4g-speeds-increase.html.

[70] Phil Goldstein, *Verizon to launch carrier aggregation, more LTE Advanced features in 2015*, Fierce Wireless, Dec. 4, 2014, http://www.fiercewireless.com/story/verizon-launch-carrier-aggregation-more-lte-advanced-features-2015/2014-12-04

[71] Paul Macchia, Verizon News Center, Press Release, "Customers Celebrate One Year of XLTE," May 19, 2015, http://www.verizonwireless.com/news/article/2015/05/customers-celebrate-one-year-of-xlte.html.

[72] Phil Goldstein, *Sprint to bring carrier aggregation to all of its LTE bands in bid to boost performance*, Fierce Wireless, Feb. 5, 2015, http://www.fiercewireless.com/story/sprint-bring-carrier-aggregation-all-its-lte-bands-bid-boost-performance/2015-02-05. Sprint also began its LTE-Advanced rollout in March 2015. *See* Matt Hamblen, *Sprint to rollout LTE Advanced to Chicago area*, Computerworld, March 30, 2015, http://www.computerworld.com/article/2903874/sprint-to-rollout-lte-advanced-to-chicago-area.html.

at the same time rolling out 4G LTE on its 700 MHz A-Block and 1900 MHz PCS spectrum."[73] And C Spire has launched is 4G LTE+ network which includes network upgrades similar to LTE-Advanced.

This focus on mobile data has improved network performance for consumers. For example, a recent analysis by PC Magazine found AT&T's average nationwide download speeds up 26 percent, to 15 Mbps (similar to many wireline offerings), in 2015 from the previous year.[74] These investments in mobile data services, which have traditionally been the focus of U.S. carriers, have come at the same time as a "voice renaissance," in which carriers are deploying new voice services including "Voice over LTE, Wi-Fi calling, and HD Voice."[75] AT&T, Verizon Wireless, and T-Mobile have all deployed Voice over LTE ("VoLTE"), and each carrier has used VoLTE to provide superior voice calls via high definition voice ("HD Voice").[76] Sprint reported in 2014 that it provided 16 million customers with HD Voice.[77] T-Mobile and Sprint have already launched Wi-Fi calling, and T-Mobile specifically has given its customers incentives to upgrade to Wi-Fi calling-capable handsets.[78] Both AT&T and Verizon Wireless have announced that they plan to offer Wi-Fi calling in 2015.[79]

---

[73] T-Mobile 1Q 2015 Release.

[74] *See* Sascha Segan, *Fastest Mobile Networks 2015*, PC Magazine, June 22, 2015, *available at* http://www.pcmag.com/article2/0,2817,2485838,00.asp (*compare* Sascha Segan & PCMag Staff, *Fastest Mobile Networks 2014*, PC Magazine, June 11, 2014, *available at* http://www.pcmag.com/article2/0,2817,2459186,00.asp).

[75] Sue Marek, *The voice renaissance: VoLTE, HD Voice and Wi-Fi calling bring innovation to voice*, Fierce Wireless, Feb. 20, 2015, http://www.fiercewireless.com/story/voice-renaissance-volte-hd-voice-and-wi-fi-calling-bring-innovation-voice/2015-02-20.

[76] *Id.*

[77] *Id.*

[78] *Id.*

[79] *Id.*

Increases in network speeds and capacity have historically led to increased usage, and this latest round of improvements has been no exception. According to Cisco's most recent virtual networking index, in 2014 mobile customers on 4G connections (accounting for 40 percent of mobile data traffic) generated 10 times more traffic than those on non-4G connections.[80] It is thus no surprise that output continues to grow rapidly, by every measure. CTIA reports that the number of mobile wireless connections grew from 335.7 million connections at the end of 2013 to more than 355 million connections in 2014.[81] According to the latest survey data from CTIA, wireless carriers carried 4.06 trillion MB of data traffic in the U.S. in 2014 – an increase of 26 percent from 2013, even as consumers' monthly cost of service declined.[82] Customers in North America, on average, used *60 percent* more wireless data per month in 2014 compared to customers in Western Europe.[83] Consumers are also using more

[80] *See* Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2014-2019, at 2-3 (Feb. 3, 2015).

[81] CTIA 2014 Release at 2. At the end of 2013, nationwide penetration rate exceeded 100 percent, and the penetration rate was at least 100 percent in 82 of the 172 Economic Areas ("EAs") in the United States, as compared to 60 EAs at the end of 2012. *Seventeenth Report* ¶ 66; Sixteenth Report, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, 28 FCC Rcd. 3700, ¶ 252 (2013).

[82] CTIA 2014 Release at 2-3 (average monthly service revenue per unit decreased from $48.79 in 2013 to $46.64 in 2014, after remaining stable around $48 for several years). See also Cisco Visual Networking Index, VNI Mobile Forecast Highlights, United States – 2014 Year in Review (May 2015) (data traffic in the U.S. grew by 63 percent in 2014, to a level equivalent to 32 times the volume of U.S. mobile traffic five years earlier, in 2009).

[83] Ericsson, *Ericsson Mobility Report: On the Pulse of the Networked Society*, June 2015, at 13, http://www.ericsson.com/res/docs/2015/ericsson-mobility-report-june-2015.pdf. Other metrics confirm that customer usage was robust in 2014. The number of "Minutes of Use (MOU)" for 2014 stood at 2.455 trillion, down slightly from 2013's record high of 2.618 trillion minutes. *See* CTIA 2014 Release at 3. The number of carrier-provided SMS and MMS messages in 2014 was up from 2013 to 1.92 trillion and 151.99 billion, *id.*, respectively, notwithstanding that there has been a substantial shift away from carrier-based SMS and MMS services to data-based services not captured by the metrics, such as Google Hangouts, Apple's iMessage, Facebook Messenger, Snapchat, and similar applications.

types of devices: the number of "wireless-enabled tablets, laptops, netbooks and wireless broadband modems" in 2014 was 35.4 million, up *40.5 percent* over 2013 levels,[84] and during the first quarter of 2015, sales of cellular-connected tablets grew by nearly 50 percent compared to the first quarter of 2014.[85] And customer satisfaction, a reflection of robust competition, has reached an all-time high according to the American Customer Satisfaction Index for the Wireless Telephone Service Industry.[86]

The way customers are using wireless data also continues to evolve. The majority of data usage in 2014 was for video – 60 percent, representing 317.8 petabytes per month.[87] Cisco estimates that video usage will continue to increase exponentially in the next four years, to an estimated 75 percent of all mobile data traffic and 2.7 *exabytes* per month.[88] Content providers have dramatically expanded their availability of mobile video services; for example, in 2015 HBO launched HBO Now, providing mobile streaming of HBO content services without the need for a pay-TV-based HBO subscription.[89] Further, content providers such as ESPN, NBCU, Vice News, Comedy Central, and the BBC have teamed up with streaming service Spotify to

---

[84] CTIA 2014 Release at 4.

[85] *See* Phil Goldstein, *As U.S. tablet sales fall overall, Verizon, AT&T and Sprint see increasing sales of cellular tablets*, Fierce Wireless, May 14, 2015, http://www.fiercewireless.com/story/us-tablet-sales-fall-overall-verizon-att-and-sprint-see-increasing-sales-ce/2015-05-14.

[86] See American Customer Satisfaction Index, Benchmarks By Industry – Wireless Telephone Service, http://www.theacsi.org/index.php?option=com_content&view=article&id=147&catid=&Itemid=212&i=Wireless+Telephone+Service.

[87] Robert Roche, *Mobile Usage Continues to Increase + Projections Say Skyrocketing Demand = More Spectrum Required*, CTIA, Feb. 6, 2015, http://blog.ctia.org/2015/02/06/mobile-usage-more-spectrum-required/ ("Roche 2/6/15 Blog").

[88] *Id.*

[89] Joan E. Solsman, *HBO Now launches on Apple TV, Cablevision ahead of 'Game of Thrones'* CNET, April 7, 2015, http://www.cnet.com/news/hbo-now-launches-on-apple-tv-cablevision-ahead-of-game-of-thrones/.

launch a streaming video service, which will include popular content from the various providers as well as some original content created only for the Spotify streaming video offering.[90]

Wireless carriers are also breaking into the market for video; in mid-2015, Verizon plans to launch an Over The Top mobile-video offering focused on college sports, and has signed new content agreements with CBS and ESPN, among others, to provide live college games, previews, recaps, and original programming to subscribers.[91] Directed offerings, such as a Nickelodeon app for children's content[92] and a Reuters TV app for news, offer mobile video including live newscasts.[93] Niche content providers are also entering the market and taking advantage of demand for video and the strength of today's mobile networks. Twitter launched its Periscope service in early 2015, which allows smartphone users to live-stream video from anywhere,[94] and there is a burgeoning new market for watching "eSports," exemplified by streaming service

[90] Todd Spangler, *Spotify Launches Video with ESPN, NBCU, Vice News, Comedy Central and More*, Variety, May 20, 2015, http://variety.com/2015/digital/news/spotify-launches-video-with-espn-nbc-vice-media-comedy-central-and-more-1201501485/.

[91] Ben Munson, *Verizon Bets on College Spots for Its OTT Mobile Video Offer*, Wireless Week, April 16, 2015, http://www.wirelessweek.com/news/2015/04/verizon-bets-college-sports-its-ott-mobile-video-offer.

[92] Jon Lafayette, *Nickelodeon to Launch Mobile Video Service* Broadcasting & Cable, Jan. 29, 2015, http://www.broadcastingcable.com/news/upfront-central/nickelodeon-launch-mobile-video-service/137528.

[93] Will Richmond, *Reuters TV Launches Amid Flurry of Mobile Vide News Initiatives*, Video Nuze, Feb. 5, 2015, http://www.videonuze.com/article/reuters-tv-launches-amid-flurry-of-mobile-video-news-initiatives.

[94] Blair Hanley Frank, *Twitter launches Periscope, jumping into live mobile streaming market*, GeekWire, March 27, 2015, http://www.geekwire.com/2015/twitter-launches-periscope-jumping-into-live-mobile-streaming-market/.

Twitch.tv, which has 100 million users logging on each month to watch the best gamers in the world play their favorite video games.[95]

Streaming music services have also seen tremendous growth, with Apple launching its new streaming music service in June 2015.[96] Recording artist Jay Z has teamed up with other artists to launch Tidal,[97] a streaming music competitor that focuses on artist compensation, and specialized genres like house and electronic dance music have seen new streaming services such as Beatport come onto the mobile music streaming scene.[98]

Upgraded mobile broadband networks are also providing the platforms for a whole new generation of services. Indeed, mobile connected devices are seeping into every aspect of American life. Consumers today use mobile networks to watch video, stream music, engage in video calls, control their thermostats and lighting, monitor home video surveillance, share photos and videos, play video games with friends, track health, obtain healthcare, make payments at stores and online, among many other things. And this is just the tip of the iceberg. Mobile broadband connectivity is being built into an ever increasing number of devices. The past year, for example, produced the first widespread wave of "wearables," such as watches, exercise monitors, health trackers, and other devices. Usage of wearables is predicted to increase from

---

[95] Melia Robinson, *What it's like to work at Twitch, the $970 million company that's turned gaming into a full-time job*, Business Insider, March 6, 2015, http://www.businessinsider.com/twitch-headquarters-office-tour-2015-3?op=1.

[96] Darrell Etherington, *Apple Streaming Music Service Launches June 30th At $9.99 A Month, $14.99 Family Plan*, Tech Crunch, June 8, 2015, http://techcrunch.com/2015/06/08/apple-streaming-music-service-apple-music/#.a5mo6v:4GM9.

[97] Ben Sisario, *Jay Z Reveals Plans for Tidal, a Streaming Music Service*, NY Times, March 30, 2015, http://www.nytimes.com/2015/03/31/business/media/jay-z-reveals-plans-for-tidal-a-streaming-music-service.html?_r=0.

[98] Billboard Staff, *Beatport Launches Free Streaming Music App for Mobile*, Billboard, March 26, 2015, http://www.billboard.com/articles/business/6516447/beatport-mobile-app-streaming-music.

29.3 million units in 2014 to 170.3 million in 2019;[99] traffic from wearables is expected to grow 19 times the current rate by 2019, to 100.4 petabytes per month.[100]

"[E]ven as human use of mobile data continues to expand, it pales in comparison to anticipated growth in the 'Internet of Things' — much of which will be wirelessly enabled."[101] Deloitte estimates that 26 *billion* "Internet of Things" units will be installed by 2020.[102] AT&T has led the industry in this environment, striking agreements with more than 136 companies across numerous industries including agriculture, automotive, aviation, energy, healthcare, transportation, security, and supply chain logistics, for Internet of Things device integration.[103] AT&T's network already serves 22 million connected devices worldwide (as of March 2015), and 70 percent more devices were activated during the first quarter of 2015 compared to the first quarter of 2014.[104] In addition to consumer products such as wearables, home control, and assistance devices for disabled persons, Internet of Things devices are also helping cities increase efficiency via smart energy grids, streetlights, irrigation systems, and traffic systems, among other deployments.

---

[99] Roche 2/6/15 Blog.

[100] *Id.*

[101] Deloitte, "United States expands global lead in mobile broadband: How policy actions could enhance or imperil America's mobile broadband competitiveness," at 17 (Sept. 2014), http://www2.deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-mobile-index-09262014.pdf.

[102] *Id.*

[103] AT&T, Press Release, "AT&T Leads the Industry in the Internet of Things," June 15, 2015, http://about.att.com/story/att_leads_industry_in_internet_of_things.html.

[104] *Id.*

CONCLUSION

For the foregoing reasons, the Commission should find that the wireless mobile marketplace is characterized by effective competition.

Respectfully Submitted,

/s/ *Michael P. Goggin*

James P. Young
Christopher T. Shenk
Rishi P. Chhatwal
Sidley Austin LLP
1501 K Street, N.W.
Washington, D.C. 20005
(202) 736-8000

Michael P. Goggin
Linda Hood
David L. Lawson
AT&T Services, Inc.
1120 20th Street, N.W.
Washington, D.C. 20036
(202) 457-3055

Counsel for AT&T

June 29, 2015